DOCUMENT RESUME

ED 101 763 JC 750 116

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|---|---|
| AUTHOR | Maney, Thomas J.; Boyd, Linda |
| TITLE | A Pilot Research Project to Determine the Feasibility of Developing Health Related Occupations Curricula at Nicolet College and Technical Institute. Final Report. |
| INSTITUTION | Nicolet Coll. and Technical Inst., Rhinelander, Wis. |
| SPONS AGENCY | Wisconsin State Board of Vocational, Technical, and Adult Education, Madison. |
| PUB DATE | Aug 74 |
| NOTE | 120p. |
| EDRS PRICE | MF-$0.76 HC-$5.70 PLUS POSTAGE |
| DESCRIPTORS | Educational Needs; *Health Occupations Education; Health Personnel; *Junior Colleges; *Manpower Needs; Nursing; *Occupational Surveys; Paramedical Occupations; *Technical Institutes; Vocational Education |
| IDENTIFIERS | Nicolet College and Technical Institute; *Nicolet Vocational Technical Adult Education Dist; Wisconsin |

ABSTRACT

Personal interviews with each employer of health care workers in the Nicolet Vocational, Technical and Adult Education (VTAE) District were conducted to determine: (1) the extent of need for trained health occupations personnel in the district; (2) the projected need for such personnel in the future; (3) which specific health occupations currently were experiencing critical shortages of trained personnel; (4) the extent to which the need for trained health occupations personnel was being met by other agencies; (5) the extent to which district residents who enroll in health occupations programs in other districts return to the VTAE District for employment; and (6) whether alternative ways of meeting district needs would be more advantageous than developing health occupations curricula at Nicolet. The need for allied health and dental workers was not critical and was not expected to become so. However, the need for nursing manpower at the RN, LPN, and Nursing Assistant levels was substantial. District allied health, dental, and nursing manpower needs were being met by on-the-job and out-of-state training. Of every four residents leaving the district for health care training, only one was returning. Correspondence courses were the most prevalent alternative method for training. The survey instrument is attached. (DC)

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FINAL REPORT
Project No. 16.044.151.224

# A PILOT RESEARCH PROJECT TO DETERMINE THE FEASIBILITY OF DEVELOPING HEALTH RELATED OCCUPATIONS CURRICULA AT NICOLET COLLEGE AND TECHNICAL INSTITUTE

Prepared by

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August, 1974

The research reported herein was performed pursuant to a grant or contract with the Wisconsin Board of Vocational, Technical and Adult Education, partially reimbursed from an allocation of Federal funds from the U.S. Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official State Board or U.S. Office of Education position or policy.

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ACKNOWLEDGMENTS

As with any research project, a great number of persons were instrumental in the successful completion of this study.

A sincere vote of appreciation is extended to the health professions personnel and health care agencies who provided the data used in this study. A special recognition is given to the project participants identified in Appendix D.

Appreciation is extended to Dr. Camilla Schloemer and Mr. Roland Krogstad, Vocational Education Consultant staff members of the Wisconsin Board of Vocational, Technical and Adult Education, for their input and assistance.

The investigator acknowledges the technical assistance and cooperation provided by Dr. Robert I. Steger, Dean of Instruction at Nicolet College and Technical Institute.

Ms. Sue Swanson, Ms. Bonnie Jones and Ms. Elda Mikalauski are gratefully acknowledged for the clerical services provided in relation to the study.

T.J.M.

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# CHAPTER I

## INTRODUCTION

In present-day educational environments which are characterized by increasing educational costs, greater demands for educational services, and increased competition for available fiscal resources, it is imperative that programmatic decision-making be preceded by effective data collection.

This study was designed to gather information relating to the health care services and personnel of the Nicolet Vocational, Technical and Adult Education District. This information will provide a basis for future decisions related to prospective educational services in health occupation careers.

### Statement of the problem

Several existing factors suggested that the Nicolet Vocational, Technical and Adult Education (VTAE) District should study the need for expanded educational services in health occupations in Northern Wisconsin. For example:

1. Nicolet has received more unsolicited requests for expanded educational services in health occupations than in any other occupational field.
2. Nicolet has received frequent, but unverified, reports of personnel shortages in various health occupations.
3. Health-related institutions within the Nicolet District are being expanded.
4. Nicolet has provided non-resident tuition for more enrollees in health-related occupations than for any other field of occupational education.

The need for this study evolved from District residents' mushrooming requests for services relating to health occupations.

Purpose of the Study

This pilot research project was designed to determine the feasibility of developing curricula in health related occupations in the Nicolet VTAE District. Future decisions related to health occupation curricula development would be based upon the data collected.

Objectives of the Study

The study was designed to provide data related to the following:

a. To determine the extent of need for trained personnel in the various health occupations in the Nicolet VTAE District.

b. To determine the projected need for trained personnel in the various health occupations in the District to satisfy future demand associated with expanded services currently being experienced.

c. To determine the specific health occupations in the District experiencing critical shortages of trained personnel.

d. To determine the extent to which the need for trained personnel in various health occupations in the District is being met by other agencies.

e. To determine if Nicolet residents who enroll in health occupations programs in other districts return to the Nicolet District for employment purposes.

f. To determine alternative ways of meeting service needs in the District that may be more advantageous than inaugurating and sustaining various programs at Nicolet College and Technical Institute.

Delimitations

The term "allied health manpower", used broadly, covers all those professional, technical and supportive workers in the field of patient care, public health and health research engaged in activities that

support, compliment or supplement the professional functions of physicians, dentists, and registered nurses, as well as environmental health personnel.

This study was limited to technical and supportive workers in the field of patient care and registered nurses who are not included in the allied health manpower force definition. Public health and health research needs were not studied.

Nicolet College is required to provide post-secondary, pre-baccalaureate instructional services, thus, only pre-baccalaureate health care occupations were studied with the exception of registered nurses.

The study was further delimited to include only those health care personnel employers within the physical boundaries of the Nicolet District

In summary, the study was limited to health care workers of below baccalaureate level education who dealt directly with patient care and RNs who were employed within the Nicolet VTAE District.

## Methodology

Health care manpower data related specifically to the Nicolet VTAE District was non-existent so the data were gathered directly from the employers of health care workers. A personal interview with each employer in the District was used to obtain information as this method appeared to be the most effective way to involve all employers.

The list of employers interviewed was developed from District telephone listings on the assumption that practicing medical professionals would be listed. Retired practitioners were not likely to have health care employees and thus were not included in the study.

Practitioners who established offices since the last telephone listing were identified by questioning practitioners in the same field. The list of hospitals and nursing homes compiled from telephone listings was checked against state records for the District.

The final list contained twenty single practice physicians, three medical clinics with a total of 26 physicians, two osteopaths, 29 dentists, six optometrists, six chiropractors, one podiatrist, two dental laboratories, five hospitals, and nine nursing homes.

A questionnaire for use by the interviewer was devised to make the interviews as consistent as possible. The instrument was modeled after the questionnaire used in "A Reassessment of Wisconsin Allied Health Occupational Education Programs", Wisconsin VTAE in 1972 to survey the health care needs of Barron County.

One questionnaire was devised for multiple and single practice physicians, osteopaths, dentists, optometrists, chiropractors, podiatrists, and dental laboratories (Appendix A), and another for hospitals and nursing homes (Appendix B.). The latter questionnaire was identical to the first with additional sheets to record number of beds, admissions and emergencies.

Survey questions are presented in relation to their related objective in the following section.

OBJECTIVE A. TO DETERMINE THE EXTENT OF NEED FOR TRAINED PERSONNEL IN THE VARIOUS HEALTH CAREERS IN THE NICOLET VTAE DISTRICT.

Twenty-five occupations, including the 18 health care programs offered in VTAE schools, were measured for number of full and part-time employees working at present (1974) and five years ago (1969), "percent

of annual turnover" and "present openings". Any change from 1969 to 1974 would indicate whether the occupation was on the increase or decrease in the District while turnover and present openings would indicate two other aspects of need.

Supplementary questions designed to point out present needs included:

--Are there health care occupation personnel who are presently not available, who would be hired if available?

--Are there any facilities or services closed due to lack of staff?

--What types of patients regularly have to be referred out of this agency?

--What type of personnel would allow them to receive treatment at this agency?

Questions on when the agency had been established and if it had expanded within the last five years indicated growth which would affect need for workers.

OBJECTIVE B. TO DETERMINE THE PROJECTED NEED FOR TRAINED PERSONNEL IN VARIOUS HEALTH CAREERS IN THE DISTRICT TO SATISFY THE FUTURE DEMAND ASSOCIATED WITH EXPANDED SERVICES CURRENTLY BEING EXPERIENCED.

Employers were asked to project their needs for 1975 and 1980 with the interviewer specifying that only needs beyond those required to satisfy their present turnover and openings were to be recorded for 1975 and 1980.

Employers were also asked if any expansion, building or remodeling was planned within the next five years and how it would affect their staffs.

OBJECTIVE C. TO DETERMINE THE SPECIFIC HEALTH CAREERS IN THE DISTRICT EXPERIENCING CRITICAL SHORTAGES OF TRAINED PERSONNEL.

Critical shortages would be revealed as large numbers in the

categories of "percent of annual turnover", "present openings", and/or future needs in 1975 and 1980. In addition the following question was designed to point out critical needs and concerns of the employers:

--In your opinion, what personnel are needed most in this agency in terms of:

1. Greatest number needed?

2. Greatest need for medical service to be provided?

OBJECTIVE D. TO DETERMINE THE EXTENT TO WHICH THE NEED FOR TRAINED PERSONNEL IN VARIOUS HEALTH CAREERS IN THE DISTRICT IS BEING MET BY OTHER AGENCIES.

The data relating to this objective was collected on a section of the questionnaire where "title of occupation" and "institution providing the educational preparation" were to be indicated (Appendix A and B).

In addition, each employer was asked if any preparatory training was provided by their agency. If training was provided, employers were asked to describe the training and indicate how many persons were trained each year.

OBJECTIVE E. TO DETERMINE IF NICOLET RESIDENTS WHO ENROLL IN HEALTH CAREERS PROGRAMS IN OTHER DISTRICTS RETURN TO THE NICOLET DISTRICT FOR EMPLOYMENT PURPOSES.

This objective was surveyed in two ways. The questionnaire sheet which recorded "title of occupation" and "institution providing the educational preparation" needed for Objective "D" also contained a column entitled "how long lived in this VTAE District". Thus the data would indicate whether the employees were "native" or had moved into the District after receiving their education outside the District.

A second means of surveying Objective "E" was to trace all the students in the Nicolet VTAE District who had left the District for

health care training in other VTAE schools. All VTAE institute student services directors were contacted and requested to indicate where these students (from 1969-1974) were working after graduation from their schools.

OBJECTIVE F. DETERMINE ALTERNATIVE WAYS OF MEETING SERVICE NEEDS IN THE DISTRICT THAT MAY BE MORE ADVANTAGEOUS THAN INAUGURATING AND SUSTAINING VARIOUS PROGRAMS AT NICOLET COLLEGE AND TECHNICAL INSTITUTE.

The questionnaire surveyed this objective in two ways. First the sheet which indicated "title of occupation", "institution providing the educational preparation" and "how long lived in this VTAE District" was designed to indicate any means other than out-of-District schools or on-the-job training in the District.

Employers were asked to identify and describe any preparatory training which was done in their agency and if they had personnel whom they felt would benefit from additional job training. If so, they were asked to identify the occupation and describe the additional training that may be needed.

Agency administrators were also asked if they would cooperate with Nicolet College and Technical Institute in the provision of health occupations training programs by providing training facilities and personnel for curriculum planning and teaching. The intent of these questions was to gain an insight into projected costs by clarifying what facilities and potential faculty may be available to Nicolet College.

Background of the study

The following historical perspective was provided to acquaint the reader with the institution and the setting in which the study was conducted.

History. Nicolet College is a public community college located in Rhinelander, Wisconsin, governed by the Nicolet Board locally, while State governance is provided in accordance with Chapter 38 of the Wisconsin Statutes.

In May, 1967, the CCHE authorized establishment of a Vocational, Technical and Adult Education (VTAE) District which presently encompasses approximately 3,800 square miles in Northern Wisconsin and serves a population of 60,000.

The NBVTAE and the CCHE has authorized development of one and two-year occupational programs, two years of "collegiate transfer" courses and a comprehensive adult education program.

Nicolet was designated a "pilot project" because (1) it may serve as a model for cooperative relationships between vocational-technical and collegiate transfer programs and, (2) it may serve as the prototype for similar developments in other sparsely populated areas of the State.

The Nicolet Board was organized July 1, 1967, and appointed an Acting Director until a District Director was chosen on June 1, 1968. Directorship appointments were made for Vocational-Technical Development, Research and Planning, and Student Services. Instructional faculty for several one-year vocational programs were appointed and appointments were made the next year for the positions of Director of Learning Resources and Dean of Instruction.

Institutional growth has been continuous as evidenced by rapidly increasing enrollments in all educational offerings and an expansion of campus facilities to accommodate the increasing demands for services.

Philosophy and Objectives Identified by the State of Wisconsin

The philosophy and objectives of Nicolet College and Technical Institute were clearly identified in Paper #70-2 of the Wisconsin Coordinating Council for Higher Education adopted in February, 1970:

> Since February 1965 (CCHE #4, 1965), the Coordinating Council has been committed to the provision of educational opportunity in Northeastern Wisconsin through a comprehensive two-year campus operating under the Wisconsin Board of Vocational, Technical and Adult Education. In May 1967 (CCHE #25, 1967), the Council authorized establishment of a "dual-track" institution to be located in Rhinelander. At that time the broad characteristics of a dual-track institution were identified as follows:
>
> (1) Instruction-oriented
> (2) Responsive to local and area needs
> (3) In close proximity to the homes of its students
> (4) Minimal student fees
> (5) An "open-door" admissions policy
> (6) A diversified curriculum encompassing:
> . Associate degree technical programs, one year preparatory technical programs, and specialized vocational programs including apprenticeship training.
> . College parallel, letters and science courses at freshman-sophomore level.
> . Adult Education (vocational and avocational) and community service programs.
> (7) Extensive counseling, guidance, and testing services.
> (8) The opportunity to transfer from one track to the other, with appropriate academic credit given for previous work.
>
> From the above, it is clear that what in 1967 was called a "dual-track" institution is referred to, throughout the United States as a "comprehensive community college".

VTAE District 16 Mission Statement: An official "mission Statement" for Nicolet College was adopted by the Nicolet Board, the WBVTAE and the Wisconsin CCHE.

> District 16 has a unique challenge and mission due to geographic and demographic influences and its responsibility to operate the State's first comprehensive two-year campus.

By offering both the first two years of collegiate work and appropriate vocational-technical programs, the Institution should provide maximum educational benefits through efficient use of resources. Full operation of the program will begin in September, 1970.

Several factors shape the mission. There are no other institutions of higher education, public or private, in the District. The District is sparsely populated with family income below the state average. Basic occupational industries are related to tourism and recreation, forestry and wood products, and the distributive, clerical and service occupations. Since certain cultural and economic opportunities are limited, special efforts will be made by the District to alleviate these problems. As a pilot institution, Nicolet College and Technical Institute has the obligation to experiment and innovate.

The unique characteristics of the District indicate that emphasis in program planning and development should be considered in the areas of tourism, recreation, forestry, and service occupations.

In its endeavor to fulfill these objectives, the Institution is committed to a program of continuous development responsive to District needs, sympathetic to educational experimentation, and contributory to the expansion of opportunities for higher education in Northern Wisconsin.

## Chapter Summary

As a relatively new institution, Nicolet College and Technical Institute is being acted upon by many environmental influences to expand its educational services in the area of health care occupational programs.

However, research designed to identify potential health care needs within the Nicolet VTAE District had not been conducted prior to this study. Consequently, a data base relating to health care services and personnel has not been available to the institution for decision-making

purposes. The information gathered through this study will provide a data base from which future decisions relating to the provision of educational services in various health occupations can be made. The decisions made, while beyond the scope of this study, will enable the institution to expand its educational offerings in a manner that is consistent with institutional philosophy and mission.

## CHAPTER II

## REVIEW OF SELECTED LITERATURE

The literature indicated substantial growth and change in the nation's health care forces.

> At the turn of the century physicians and dentists constituted 97% of the less than .5 million health workers in the nation. By 1966, these two groups represented only about 16% of the over 2.5 million who provide direct care. Eighty-four percent were in the categories of allied and supportive health workers. Although many roles and relationships are yet to be defined, it appears that the independent practitioner will function as the leader of a team composed of a variety of specialists prepared at several levels (Tomlinson, Langdon, and Rzonca; 1971, p. 10).

This same growth was evident at the state level. The Wisconsin State Employment Service (WSES) (1970, p.22), identified health care services as the greatest growth industry among all industries in Wisconsin. As for the future--"Growth in 1970's work force will be dominated by three service oriented industries. . .with health the major sector likely to see rapid growth" (Wisconsin Department of Administration, 1972, p.21).

Dividing the health care force into medical-dental and nursing manpower further clarified its changing composition and provided data relevant to the objectives of the study. Determination of the present and future need for trained personnel in the various health occupations was a concern at state and national levels.

The U.S. Department of Health, Education and Welfare (HEW) included the following in a definition of the medical manpower force:

medical doctors; osteopaths; selected practitioners (optometrists, pharmacists, pediatrists, clinical psychologists, clinical social workers, chiropractors, naturopaths, and midwives); and "allied health occupations".

"Allied health manpower", consisted of those professional, technical and supportive workers in the field of patient care, public health and health research engaged in activities that support, compliment or supplement the professional function of physicians, dentists, and registered nurses, in addition to environmental health personnel. (HEW; 1970, p.3).

The estimated number of U.S. workers in allied health manpower nearly tripled (286,000 to 806,500) from 1950 to 1967. More significantly, the percentage of allied health manpower within the medical manpower force increased. In 1950, physicians, osteopaths, and selected practitioners accounted for 73 percent of the medical manpower force while allied health occupations accounted for 27 percent. In 1967, the percentages were 53 and 47 respectively. This represented a nine percent increase in jobs for allied health occupations requiring at least a baccalaureate degree and an 11 percent increase in allied health occupations requiring less than a baccalaureate degree (HEW; 1970, p. 8).

Despite these increases, allied health manpower was expected to show future deficits. In 1967, there were 60,000 unfilled openings for sub-bacculaureate allied health workers. Deficits for 1975 and 1980 were expected to be 88,000 and 105,000 respectively (HEW; 1970, p.10). According to the U.S. Dept. of Health, Education

and Welfare, "it appears that current requirements for sub-baccalaureate medical allied manpower exceed employment by approximately 20 to 25 percent".

National records of allied health manpower were more extensive than Wisconsin records. "The report of the Governors task force on health care in Wisconsin", (Carley; 1972, p.83), suggested the following possible explanation,

> Many of the allied professions are new and rapidly increasing in size. The number of health workers required to meet the state's needs is not certain and a comprehensive state health manpower policy and plan does not exist.

"The reassessment of Wisconsin allied health occupations education programs" (Strong; 1972, p. 28), noted:

> A major obstacle to a complete survey is the inability to identify all health workers in the State of Wisconsin. Hospital surveys tend to identify hospital workers, nursing home surveys tend to identify nursing homes workers and so forth. This approach fails to identify health workers both in clinics and doctors' offices and assumes also that job titles hold sacred for all types of institutions. At the present time, it is beyond the resources of the Bureau of Health Statistics to account for such variation.

Analysis of Wisconsin unemployment figures did not provide significant information. Statewide unfilled job opening statistics from December 1969 through September 1973, showed general duty nurses, practical nurses and nurse aides as the only health care occupations with cronic unfilled openings.

Wisconsin Manpower Projections published in April 1970 indicated that a rise in specialty workers in the health occupations was evident. Although workers included in the category designated as "medical and dental technicians" was not precisely defined by the State Employment

Service report, the need for such personnel was expected to increase 110 percent in Wisconsin by 1975. This compared to forecasts of a 60 percent increase in needs for more traditional types of health workers such as general duty and practical nurses.

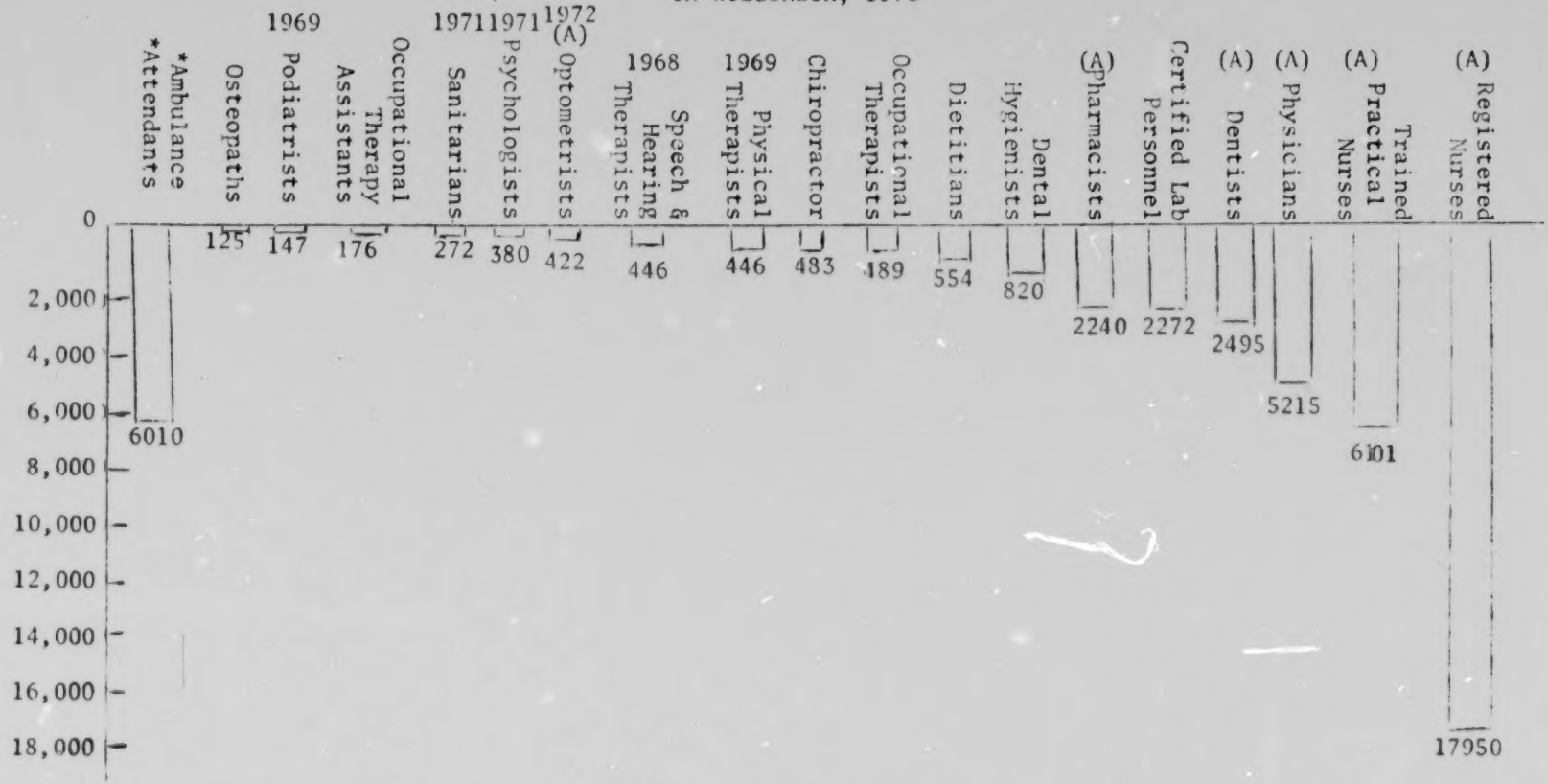
Tables 1 and 2, listed the number of persons in health occupations in Wisconsin during 1970 and the distribution of health occupations personnel by county. However, several occupations offered as diploma or associate degree programs in the Wisconsin Vocational, Technical and Adult Education Career Education Directory were not included in the Tables: electroencephalograph assistant, medical assistant, medical lab assistant, medical record technician, operating room assistant, optometric assistant, physical therapy assistant, radiologic technician, respiratory therapist and ward clerk.

Dental manpower data indicated that dentists made up 48.3 percent of the entire dental manpower team in 1950. In 1967, dentists accounted for only 41.8 percent with the 6.5 percent gain accounted for by dental hygienists and assistant occupations. It was estimated that for every 100 active non-federal dentists in the nation at least 35 dental hygienists would be used by 1980, or twice the 1967 ratio of 100 to 17. Utilization of assistants was expected to increase from 105 per 100 dentists in 1967 to 150 per 100 dentists by 1980. The number of technicians was expected to increase slightly from 30 per 100 in 1967 to 35 per 100 in 1980 (HEW; 1970, p.19).

In terms of dental allied manpower requirement and supply, a national deficit in all three allied dental fields existed and was ex-

TABLE I

NUMBERS OF PERSONS IN HEALTH OCCUPATIONS
IN WISCONSIN, 1970*




(A) Includes active only, all other occupations both active and inactive

* 1970 unless otherwise specified

** Ambulance attendants consist of personnel who represent a great variety of occupations. A relatively small proportion of the total number work exclusively as ambulance attendants on a full time basis. About 40 percent of the attendance are volunteers, 37 percent are public employees and 23 percent work for private ambulance services

Source: Wisconsin Dept. of Health & Social Services, Division of Health, Bureau of Health Statistics

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TABLE 2

DISTRIBUTION OF HEALTH OCCUPATIONS' PERSONNEL BY COUNTIES IN WISCONSIN

| | Certified Occupational Therapist | Certified Occupational Therapy Assistants | Dentists (Active) | Dental Hygienists (Active) | Dieticians (Active & Inactive) | Medical Technicians (Active & Inactive) | Registered Nurses (Active) | Trained Practical Nurses | Optometrists (Active) | Pharmacists (Active) | Physical Therapists | Physicians & Osteopaths (Active) | Podiatrists (Active & Inactive) | Psychologists (Active) | Sanitarians (Active & Inactive) | Speech & Hearing Therapists (Active & Inactive) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adams | | 1 | 2 | 1 | | 2 | 14 | 6 | | 3 | | 3 | | | | |
| Ashland | 2 | | 10 | | 1 | 1 | 77 | 28 | 2 | 13 | 2 | 13 | | 2 | 3 | |
| Bayfield | | | 2 | | | 2 | 21 | 5 | | 4 | | 2 | | | | |
| Barron | 1 | | 20 | 1 | 2 | 9 | 96 | 28 | 6 | 20 | | 23 | | 1 | 2 | 1 |
| Brown | 14 | 6 | 86 | 20 | 14 | 73 | 669 | 293 | 16 | 78 | 15 | 148 | 5 | 12 | 20 | 13 |
| Buffalo | | | 4 | | | 3 | 23 | 3 | 1 | 4 | | 4 | | | | |
| Burnett | | | 2 | | | 2 | 14 | 8 | | 4 | | 3 | | | | 1 |
| Calumet | | | 9 | 1 | | 6 | 39 | 21 | 3 | 3 | | 9 | | | | |
| Chippewa | | | 22 | 3 | 5 | 17 | 176 | 47 | 5 | 18 | 2 | 20 | 1 | | 2 | 3 |
| Clark | | 2 | 15 | | 2 | 7 | 52 | 13 | 6 | 12 | 1 | 15 | | | | |
| Columbia | 2 | 6 | 20 | | 3 | 14 | 117 | 61 | 4 | 25 | 4 | 28 | 1 | 2 | | 3 |
| Crawford | | | 6 | | 1 | 2 | 48 | 14 | 2 | 4 | | 7 | | | | |
| Dane | 91 | 25 | 196 | 74 | 113 | 286 | 2,079 | 512 | 25 | 225 | 79 | 995 | 9 | 71 | 41 | 92 |
| Door | | | 10 | 2 | 1 | | 49 | 14 | 3 | 12 | 1 | 11 | | | 1 | 2 |
| Douglas | | | 22 | 1 | 4 | 31 | 142 | 237 | 2 | 25 | 3 | 24 | 1 | 4 | | 2 |
| Dunn | 3 | | 12 | 1 | 10 | 4 | 64 | 18 | 3 | 12 | 1 | 11 | | 7 | 2 | 1 |
| Dodge | 5 | 4 | 25 | 3 | 6 | 33 | 187 | 78 | 7 | 19 | 5 | 47 | 1 | 3 | | 3 |
| Eau Claire | 5 | 3 | 36 | 11 | 9 | 40 | 435 | 90 | 5 | 37 | 10 | 83 | 4 | 12 | 10 | 12 |

TABLE 2 (cont.)

DISTRIBUTION OF HEALTH OCCUPATIONS' PERSONNEL BY COUNTIES IN WISCONSIN

| | Certified Occupational Therapist | Certified Occupational Therapy Assistants | Dentists (Active) | Dental Hygienists (Active) | Dieticians (Active & Inactive) | Medical Technicians (Active & Inactive) | Registered Nurses (Active) | Trained Practical Nurses | Optometrists (Active) | Pharmacists (Active) | Physical Therapists | Physicians & Osteopaths (Active) | Podiatrists (Active & Inactive) | Psychologists (Active) | Sanitarians (Active & Inactive) | Speech & Hearing Therapists (Active & Inactive) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Florence | | | | | | | 2 | | | 1 | | 1 | | | | |
| Fond du Lac | 2 | | 40 | 9 | 8 | 47 | 368 | 190 | 9 | 50 | 9 | 81 | 3 | 5 | 7 | 5 |
| Forest | 1 | | 4 | | 1 | | 13 | 4 | 1 | 4 | | 3 | | | | |
| Green | | 2 | 18 | | 6 | 17 | 139 | 22 | 4 | 13 | 2 | 46 | 2 | | 3 | 1 |
| Green Lake | 1 | | 8 | | 2 | 2 | 39 | 13 | 2 | 3 | | 12 | | | 1 | 1 |
| Grant | 3 | 2 | 21 | 3 | 5 | 10 | 159 | 39 | 3 | 18 | 1 | 29 | | 4 | 1 | 1 |
| Iowa | | 6 | 6 | 2 | 1 | 3 | 49 | 10 | 2 | 4 | 1 | 7 | | | | |
| Iron | | | 3 | | | 2 | 7 | 3 | 1 | 5 | | 2 | | | | |
| Jackson | 2 | 7 | 2 | | | 3 | 43 | 12 | 1 | 6 | 1 | 8 | | | | 1 |
| Jefferson | 2 | 1 | 31 | 5 | 3 | 13 | 195 | 77 | 8 | 27 | 1 | 33 | 2 | 1 | | 5 |
| Juneau | 5 | 2 | 7 | | 3 | 1 | 33 | 8 | 2 | 8 | | 11 | | | 1 | 1 |
| Kenosha | | | 60 | 9 | 9 | 46 | 343 | 372 | 12 | 49 | 10 | 88 | 5 | 2 | 5 | 14 |
| Kewaunee | | 1 | 12 | 2 | 2 | 5 | 36 | 12 | 3 | 6 | | 9 | | | | |
| La Crosse | 4 | 4 | 60 | 13 | 9 | 82 | 592 | 223 | 5 | 45 | 8 | 99 | 5 | 3 | 10 | 8 |
| La Fayette | 3 | | 5 | 1 | | 3 | 22 | 2 | 2 | 5 | | 4 | | | | |
| Langlade | | | 13 | | | 2 | 56 | 10 | 3 | 10 | 2 | 14 | | | 1 | |
| Lincoln | | | 8 | 2 | | 5 | 75 | 12 | 3 | 14 | | 14 | | | 1 | 2 |
| Marathon | 8 | 3 | 47 | | 6 | 35 | 333 | 33 | 5 | 39 | 6 | 72 | 4 | 3 | 5 | 5 |
| Marinette | | 3 | 20 | 3 | 3 | 3 | 81 | 43 | 5 | 8 | | 20 | 1 | 2 | | |
| Manitowoc | 2 | 5 | 39 | 9 | 8 | 31 | 308 | 75 | 5 | 34 | 3 | 51 | 1 | 1 | 4 | 8 |

TABLE 2 (cont.)

DISTRIBUTION OF HEALTH OCCUPATIONS' PERSONNEL BY COUNTIES IN WISCONSIN

| | Certified Occupational Therapist | Certified Occupational Therapy Assistants | Dentists (Active) | Dental Hygienists (Active) | Dieticians (Active & Inactive) | Medical Technicians (Active & Inactive) | Registered Nurses (Active) | Trained Practical Nurses | Optometrists (Active) | Pharmacists (Active) | Physical Therapists | Physicians & Osteopaths (Active) | Podiatrists (Active & Inactive | Psychologists (Active) | Sanitarians (Active & Inactive) | Speech & Hearing Therapists (Active & Inactive) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Menomonie | | | | | | 3 | | | | | | | | | | |
| Marquette | | 2 | 3 | | | | 7 | 5 | 1 | 4 | | 2 | | | | |
| Milwaukee | 193 | 37 | 765 | 199 | 154 | 790 | 5078 | 1766 | 94 | 601 | 156 | 1896 | 52 | 120 | 85 | 130 |
| Monroe | 5 | 4 | 13 | 3 | 1 | 8 | 132 | 39 | 4 | 13 | 1 | 42 | 1 | 3 | 2 | 3 |
| Oconto | 1 | 1 | 9 | 1 | 1 | 2 | 54 | 29 | 2 | 7 | | 10 | | 4 | | 1 |
| Oneida | 1 | | 15 | 6 | 2 | 7 | 94 | 18 | 3 | 15 | 1 | 28 | 1 | 1 | 3 | 2 |
| Outagamie | 6 | 1 | 71 | 24 | 6 | 51 | 379 | 141 | 14 | 52 | 12 | 105 | 4 | 5 | 6 | 8 |
| Ozaukee | 8 | 1 | 31 | 20 | 6 | 29 | 92 | 22 | 4 | 19 | 4 | 29 | 2 | 6 | 3 | 9 |
| Pierce | 1 | | 12 | | 3 | 10 | 60 | 14 | 3 | 12 | | 22 | | 4 | 1 | 4 |
| Polk | | | 14 | | | 6 | 85 | 34 | 4 | 16 | | 23 | | | | |
| Price | | 3 | 7 | | | 1 | 35 | 11 | 1 | 5 | 1 | 5 | | | 1 | 1 |
| Pepin | | | 5 | 1 | 1 | 4 | 17 | 6 | | 2 | | 5 | | | 1 | 1 |
| Portage | 4 | 1 | 19 | 3 | 5 | 30 | 136 | 38 | 3 | 16 | 3 | 35 | 1 | 3 | 2 | 10 |
| Racine | 11 | 11 | 84 | 11 | 18 | 80 | 610 | 270 | 16 | 84 | 16 | 140 | 6 | 14 | 3 | 12 |
| Richland | | | 7 | 1 | 1 | 3 | 47 | 9 | 1 | 7 | 2 | 13 | | | | |
| Rock | 5 | 4 | 65 | 13 | 9 | 36 | 480 | 91 | 12 | 68 | 10 | 121 | 5 | 2 | 11 | 10 |
| Rusk | | | 4 | 1 | 1 | 1 | 51 | 12 | 2 | 5 | | 6 | | | | 1 |
| Sauk | 1 | 7 | 20 | 4 | 3 | 11 | 150 | 35 | 5 | 24 | 1 | 24 | 1 | | 2 | 3 |
| Sawyer | | | 5 | | | | 28 | 12 | 1 | 4 | | 6 | | | | 3 |
| Shawano | | 1 | 15 | 2 | | 2 | 59 | 27 | 3 | 13 | 1 | 18 | | 2 | 1 | 1 |

TABLE 2 (cont.)

DISTRIBUTION OF HEALTH OCCUPATIONS' PERSONNEL BY COUNTIES IN WISCONSIN

| | Certified Occupational Therapist | Certified Occupational Therapy Assistants | Dentists (Active) | Dental Hygienists (Active) | Dieticians (Active & Inactive) | Medical Technicians (Active & Inactive) | Registered Nurses (Active) | Trained Practical Nurses | Optometrists (Active) | Pharmacists (Active) | Physical Therapists | Physicians & Osteopaths (Active) | Podiatrists (Active & Inactive) | Psychologists (Active) | Sanitarians (Active & Inactive) | Speech & Hearing Therapists (Active & Inactive) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheboygan | 6 | 4 | 60 | 16 | 6 | 36 | 367 | 103 | 10 | 47 | 8 | 72 | 4 | 4 | 3 | 9 |
| St. Croix | 3 | | 14 | 1 | 3 | 10 | 101 | 38 | 4 | 13 | | 19 | | | 1 | 2 |
| Taylor | | | 5 | | | 3 | 38 | 5 | 1 | 3 | | 6 | | 1 | 1 | |
| Trempealeau | | | 11 | | 2 | 3 | 73 | 21 | 1 | 9 | | 15 | | 1 | 2 | 1 |
| Vilas | | | 5 | 1 | 2 | 1 | 39 | 6 | 1 | 7 | | 5 | | | | |
| Vernon | | 1 | 9 | 1 | 1 | 5 | 63 | 13 | 3 | 11 | 1 | 10 | 1 | | | 2 |
| Walworth | 4 | 3 | 34 | 5 | 3 | 6 | 163 | 24 | 8 | 32 | 3 | 38 | 4 | 7 | 5 | 6 |
| Washburn | | | 5 | | | 3 | 33 | 11 | 1 | 5 | | 8 | | | | |
| Washington | 4 | 4 | 30 | 11 | 8 | 25 | 153 | 43 | 3 | 18 | 3 | 33 | 1 | 4 | 1 | 3 |
| Waushara | 1 | | 8 | 1 | | 4 | 31 | 4 | 2 | 3 | | 10 | 1 | | | 1 |
| Waukesha | 52 | 5 | 124 | 65 | 58 | 141 | 740 | 242 | 23 | 122 | 35 | 251 | 6 | 16 | 9 | 17 |
| Waupaca | | | 18 | 2 | 3 | 6 | 130 | 29 | 6 | 21 | 2 | 21 | | | | 1 |
| Winnebago | 20 | | 67 | 24 | 10 | 56 | 652 | 280 | 13 | 66 | 9 | 150 | 5 | 13 | 5 | 11 |
| Wood | 7 | 3 | 38 | 7 | 10 | 60 | 379 | 67 | 9 | 44 | 8 | 115 | 1 | 5 | 5 | 4 |

pected to continue through 1980. A deficit of 5,000 hygienists in 1967 will be replaced by a deficit of 6,600 in 1975 and 9,300 in 1980. In reference to dental assistants, a deficit of 18,800 was experienced in 1967 and will be replaced by a deficit of 48,200 in 1975 and 74,400 in 1980 (HEW; 1970, p.20). In Wisconsin a shortage of dental manpower was not stressed as much as the maldistribution of available manpower at all levels.

The Governor's Task Force study, (Carley, 1972, p.83), reported that there were "1,448 persons per dentists in Southeastern Wisconsin compared to 2,151 persons per dentist in the Northwestern part of Wisconsin". As reported by Kassalow (1972,p.62), the Southeastern District alone had more than half of the active and inactive dental hygienists of the state during 1971.

Nursing manpower showed a tremendous growth in actual number as well as in percentage of the total health care force, and accounted for 44 percent of the total health care force during 1950 and 50 percent by 1967. A continuing shortage at all levels of nursing personnel was expected (HEW; 1970, p 22). In 1963, the Surgeon General's Consultant Groups of Nursing set as a 1970 target goal the active employment of 850,000 Registered Nurses (RNs) or about 417 nurses per 100,000 population. For 1975, the Group set an approximate goal of 1,000,000 employed RNs or 445 to 465 nurses per 100,000 persons. The goal was later extended to 1975 "because it was recognized that the need for 850,000 professional nurses would be impossible to achieve by 1970 (Commission on Statewide Planning for Nursing Education; 1970, p. 1).

Statistics indicated that Wisconsin had a substantial nursing work force compared to national averages. The Commission on Statewide Planning for Nursing Education (1970, p.4) also indicated that, "Wisconsin's 1968 ratio of nurses per 100,000 persons was more favorable than that being sought by 1975 for the nation at large".

In a report on nursing by the commission of Statewide Planning for Nursing Education (March, 1970), a goal of 450 active RNs per 100,000 by 1978 was set. A later report by the Advisory Committee to the Wisconsin State Board of Nursing (March 1973, p.7), stated that "projected graduation for 1974-75 by the long-range planning sub-committee with the assistance of nursing schools suggested that Wisconsin could reach its target goal of 450 nurses per 100,000 people prior to 1978, despite the decline in the number of diploma schools enrolling new students".

The literature documented the concentration of personnel in the sourthern areas of the State. In 1971 the Southern and Southeastern Hospital Association District contained 57 percent of the state population and 61 percent of the state's registered nurses. As reported by the State Department of Health and Social Services (1971, p.1) and Kassalow and Nashold (1971, p.9), the North Central District (which encompasses the Nicolet VTAE District) with 7.6 percent of the State population contained only 6.5 percent of the registered nurses. The State Department of Health and Social Services (1971a, p.1; 1971b, p.1), further reported that the South and Southeastern Districts had 59.5 percent licensed practical nurses (LPNs) and the North Central District had 3.65 percent of the LPNs in 1971.

Very little data existed on health care occupations at the Nicolet District level. The North Central Hospital Association District and the North Central Area Health Care Planning Association District were the smallest substate areas containing the Nicolet District that were concerned with health care. A health care occupations study had never been conducted in the Nicolet District although a health care service study had been completed for the Howard Young Medical Center.

Tables 3 and 4 taken from the hospital study concerned only with Oneida and Vilas Counties in the Nicolet District gave some indication of the distribution of health workers in the Nicolet District. The Tables contained statistics on all levels of health care workers from physician to low level training occupations in the North Central Area Health Planning Association District but were not specific in the areas of allied health, dental and nursing.

These Tables varied within themselves and contradicted each other not only in years of statistics but also in statistical result for the same year. Table 3 suggested that the two-county area had more physicians per 1,000 population than the rest of the state and Table 4 suggested the opposite. The inconsistent and somewhat out-dated data, in conjunction with a general lack of data on health care needs in the Nicolet District that was available necessitated a District survey to determine current and future health care needs.

Both Tables indicated that Vilas and Oneida Counties had a lower RN ratio per 1,000 population than the state level. This was confirmed in Wisconsin Bureau of Health Statistics, Division of Health Publication Statistics on Registered Nurses and Licensed Practical Nurses.

TABLE 3

COMPARATIVE RATIOS OF POPULATION
TO PHYSICIANS, DENTISTS, AND NURSES

| Area | Population | Nonfederal Physicians in Primary Care 1970(1) | | Nonfederal Dentists in General Practice 1968 | | Registered Nurses in Active Practice 1966 | |
|---|---|---|---|---|---|---|---|
| | | Number | Ratio | Number | Ratio | Number | Ratio |
| Vilas County | 10,958 | 6 | .548 | 6 | .548 | 25 | 2.281 |
| Oneida County | 24,427 | 21 | .860 | 19 | .778 | 61 | 2.497 |
| 2-County Total | 35,385 | 27 | .763 | 25 | .707 | 86 | 2.430 |
| North Central Area Health Planning Assoc., Inc. | 344,100 | 197 | .573 | 169 | .491 | 897 | 2.607 |
| Wisconsin | 4,417,731 | 3,036 | .687 | 2,431 | .550 | 14,025 | 3.175 |
| U.S. | 203,211,926 | 172,800 | .850 | 96,906 | .477 | 594,187 | 2.924 |

Note: (1) Includes Doctors of Medicine and Osteopathy in General Practice, Internal Medicine, General Surgery, Pediatrics, Obstetrics and Gynecology.

Sourses: U.S. Bureau of the Census, American Medical Association, American Osteopathic Association, American Dental Association and American Nursing Association.

Community Profile Data Center, USPHS.

A. T. Kearney, Inc.

TABLE 4

HEALTH MANPOWER PER 1,000 POPULATION
ONEIDA AND VILAS COUNTIES AND STATE OF WISCONSIN

| | Number Vilas County | Per 1,000 Population | Number Oneida County | Per 1,000 Population | 2County Total | Per 1,000 Population | Number State of Wisconsin | Per 1,000 Population |
|---|---|---|---|---|---|---|---|---|
| Certified Occupational Therapist (Active and Inactive), 1970(1) | - | - | 1 | .04 | 1 | .03 | 489 | .11 |
| Certified Occupational Therapy Assistants (Active and Inactive), 1970(1) | - | - | - | - | - | - | 176 | .04 |
| Chiropractors (Active), 1972 (2) | 1 | .09 | 5 | .20 | 6 | .17 | 396 | .09 |
| Dentists (Active), 1970(2) | 5 | .46 | 15 | .61 | 20 | .57 | 2,495 | .56 |
| Dental Hygienists (Active), 1970(2) | 1 | .09 | 6 | .25 | 7 | .20 | 612 | .14 |
| Dietitians (Active), 1970(2) | 2 | .18 | 2 | .08 | 4 | .11 | 554 | .13 |
| Certified Medical Laboratory Personnel (Active and Inactive), 1970(3) | 1 | .09 | 7 | .29 | 8 | .23 | 2,272 | .51 |

Notes: (1) Occupational Therapy Association, New York, New York
(2) Wisconsin Department of Regulation and Licensing, data tabulated by Section of Statistical Services
(3) Register of certified laboratory personnel - American Society of Pathologists, Chicago, Illinois

Sources: University of Wisconsin Extension Program for specific counties, A.T. Kearney, Inc.

TABLE 4 (con't.)

HEALTH MANPOWER PER 1,000 POPULATION
ONEIDA AND VILAS COUNTIES AND STATE OF WISCONSIN

| | Number Vilas County | Per 1,000 Population | Number Oneida County | Per 1,000 Population | 2County Total | Per 1,000 Population | Number State of Wisconsin | Per 1,000 Population |
|---|---|---|---|---|---|---|---|---|
| Registered Nurses (Active), 1970(2) | 39 | 3.56 | 94 | 3.85 | 133 | 3.76 | 17,775 | 4.02 |
| Trained Practical Nurses (Active), 1970(2) | 6 | .55 | 18 | .74 | 24 | .68 | 6,101 | 1.38 |
| Optometrists (Active), 1970(2) | 1 | .09 | 3 | .12 | 4 | .11 | 427 | ,10 |
| Pharmacists (Active), 1970(2) | 7 | .64 | 15 | .61 | 22 | .62 | 2,240 | .51 |
| Physical Therapists (Active and Inactive), 1972(4) | - | - | 1 | .04 | 1 | .03 | 444 | .10 |
| Physicians and Osteopaths (Active), 1970(5) | 5 | .46 | 28 | 1.15 | 33 | .93 | 5,333 | 1.21 |
| Podiatrists (Active and Inactive), 1972(4) | - | - | 1 | .04 | 1 | .03 | 142 | .03 |

Notes: (4) Wisconsin Department of Regulation and Licensing
(5) American Medical Association and American Osteopathic Association, Chicago, Illinois

TABLE 4 (con't.)

HEALTH MANPOWER PER 1,000 POPULATION
ONEIDA AND VILAS COUNTIES AND STATE OF WISCONSIN

| | Number Vilas County | Per 1,000 Population | Number Oneida County | Per 1,000 Population | 2County Total | Per 1,000 Population | Number State of Wisconsin | Per 1,000 Population |
|---|---|---|---|---|---|---|---|---|
| Psychologists (Active), 1971(2) | - | - | 1 | .04 | 1 | .03 | 350 | .08 |
| Sanitatians (Active and Inactive), 1971(6) | - | - | 3 | .12 | 3 | .08 | 272 | .06 |
| Speech and Heating Therapists (Active and Inactive), 1968(7) | - | - | 2 | .08 | 2 | .06 | 446 | .10 |

Notes: (6) Section of Sanitarian Services, Bureau of Environmental Health, Division of Health
(7) American Speech and Hearing Association, Washington, D.C. and Wisconsin Speech and Hearing Association, Madison, Wisconsin

The need for trained personnel on the national level was high and was expected to remain high in the areas of allied health, dental and nursing manpower. The need at the state level has not been well documented for allied health workers. Maldistribution was evident in the dental manpower field both for dental hygienists and dentists. Present and future nursing manpower appeared to be adequate at the state level according to statistics from the Advisory Committee to the Wisconsin State Board of Nursing. Despite this, Wisconsin's Comprehensive Manpower plan, fiscal year 1974 still showed registered and practical nurses, and nursing assistants as chronic, hard to fill positions. Statistics on registered and practical nurses by county indicated a possible maldistribution problem.

Local data on the Nicolet District was scarce with the only recent study done in the District indicating a need for nurses.

The extent to which the need for trained personnel in various health careers was being met by other agencies has been recorded and estimated on the national level and discussed on the state level.

The U.S. Dept. of Health, Education and Welfare (1970,p.14), indicated that training capabilities for allied health personnel are presently strained and will continue to be in the future because the turnover needs for less than baccalaureate level workers was high with short professional life expectancy and high institutional turnover added to increased demands for larger numbers of workers.

A second reason indicated by HEW (1970,p.14) was that, "notably if adequate number of medical allied manpower at the baccalaureate level are not prepared, it can be expected that additional sub-baccalaureate personnel will be pressed into service."

The extent to which the need for trained personnel in various health occupations is being met by other agencies in Wisconsin was a concern in several state reports. The 1968 assessment of the Wisconsin VTAE programs recommended that the state board staff work aggressively to expand training capability in the health occupations, (Strong, 1970, p.178):

> It seems clear that neither in Wisconsin nor in the nation as a whole are enough people being trained in health occupations at less than baccalaureate level to meet health needs. It also seems clear that there are persons available for training if training opportunities were expanded.

The question of health care in Wisconsin prompted Gov. Patrick J. Lucey in May 1971 to form a task force to "look hard and objectively at the facts concerning the health of the people of Wisconsin". When the task force report was published in November of 1972 more understanding of the question of adequate health care education in Wisconsin was available (Carley, 1972, p.86):

> In many cases the need for health manpower is not matched by the size or location of education programs. There are excess personnel in some areas. In others there are serious shortages.

Nationally the number of programs for the training of dental auxiliaries has grown significantly in the past years with the number of programs more than doubling from 1964-65 to 1968-69.

The biggest increase appeared in dental assistant programs which increased from 50 in 1964 to 134 in 1969. This increase was not expected to meet the needs of 1980, however, because if was expected that new graduates from dental assistants programs would contribute only about 38,300 assistants with an additional 74,700 needed by 1980.

Dental hygiene education programs which have been established in addition to those expected to be established in future years, were expected to contribute about 21,900 to the 1980 supply, although, an additional 9,300 hygienists would be needed to meet 1980 needs (HEW; 1970, p.17).

Little research existed concerning the extent to which agencies in Wisconsin were meeting the dental occupation needs. A survey on dental hygienists conducted in 1972 (Kassalow, p.66), recommended more frequent studies of licensed dental hygienists in the state. "Periodic surveys can help distinguish manpower need and improve state decision making with regard to the expansion of limitation of additional educational programs for hygienists". However, the study itself did not make any recommendations regarding expansion or limitation of educational programs.

Until approxmiately 15 years ago, Marquette University was the only school in Wisconsin offering a program in dental hygiene. Since then, four VTAE schools have implemented programs. Even less data was found on Wisconsin dental assistants. At present six VTAE schools offer dental assistant programs.

Nationally the need for nursing personnel was evident at the RN, LPN and Nursing Assistant levels. In 1975, 816,000 RNs were expected to be in the work force. This figure reflected a shortage of almost 200,000 in view of the estimated need of 1,000,000. 546,000 LPNs were estimated to be in practice in 1975 while 550,000 would be needed, indicating a deficit of less than 4,000. Nursing assistants were expected to number 1,000,000 in 1975 which was 75,000 short of the 1,075,000 needed. On the national level, the need for registered

nurse training were not met. While LPN and nurse assistant education needs were still a concern, they were not as critical as the need for RNs (HEW; 1970, p.24).

Statistics at the state level indicated that state educational agencies were meeting state needs. As reported by the Advisory Committee to the Wisconsin State Board of Nursing (1973, p.7):

> Projected graduation for 1974-75 computed by the long-range sub-committee with the assistance of nursing schools, suggest that Wisconsin can reach its target goal of 450 RNs per 100,000 people prior to 1978 despite the decline in the number of diploma schools enrolling new students. Higher enrollment in both associate and baccalaureate degree programs will offset the decline in the number of diploma graduates.

In addition to the state goal of 450 RNs per 100,000 population the Wisconsin Board of Nursing (1973,p.9) have set the goals in the immediate future regarding the proportion of nursing personnel for providing direct patient care in general nursing care units in hospitals for RNs (38-40 percent), LPNs (20 percent) and nursing assistants (40-42 percent).

A shift in enrollment from diploma schools to associate degree schools was evident in the State. Another shift in emphasis was noted in the recommendations of the Advisory Committee to the Wisconsin State Board of Nursing (1973, p.10):

> Priority should be given to graduate education in nursing in Wisconsin. A critical need for professional nurses with master's preparation for positions in nursing services and nursing education dictates that these programs be expanded and given adequate financial support.

The extent to which other agencies are meeting the educational needs at the Nicolet District level was 100%. Except for a hospital-based radiologic technician course teaching 4-8 students per year

and on-the-job training, all trained personnel were educated outside the District. Nicolet College's only health care occupation program was the up-grading of employed Nursing Assistants.

The determination of whether or not Nicolet residents enrolling in health career programs in other districts return to the Nicolet District for employment purposes has some precedence on the national and state levels. Several studies indicated that the place of training was a positive predictor of where students would seek employment in terms of general geographic location. (Mechler, Thum, Williams; 1972).

Elliot Richardson, Secretary of Health, Education and Welfare, in testimony to the House Sub-committee on Public Health and the Environment on April 20, 1971 made the following statement:

> Although progress has been made (in providing government support for health manpower training programs), it has become increasingly clear that greater efforts are needed to provide health personnel of the right kinds in the right places. It is not enough to merely train additional numbers. We must also encourage trained personnel to practice their skills in the service. Setting and geographic areas where they are needed most, where they can make the greatest contribution to the health care of the nation.

Examples of this existed on the State level. In 1970 the Southeastern Hospital Administration District contained more than half of the state's dental hygienists. Fifty-two percent lived there and 50 percent worked there. The large concentration was attributed to the fact that up to three years before the study was conducted there was only one dental hygienist program in the state. It was Marquette Dental School which is located in that District (Kassalow, 1972, p.62).

The first recommendation of "An assessment of Wisconsin's Allied Health Occupations Educational Program" in 1971 was to adopt those policies which would facilitate greater growth of health occupation workers in the rural areas of Wisconsin through the expansion of educational programs, both job entry and continuing education. In the statement following the recommendation the report indicated that to a great extent, program development has been concentrated in the more populated areas of the State, a factor which appeared to have created geographical gaps in needed training programs in the more rural areas.

Another recommendation in the same study implied that because multiple studies have shown that licensed practical nurses tend to be employed in the geographic areas in which they were prepared, it would seem imperative that efforts be made to develop practical nurse training programs in the rural areas where the needs were urgent, and to look for alternative ways to provide for health manpower such as scholarships or other forms of support which may stimulate the provision of service in the less populated areas.

The literature did not reveal any data on the District level to indicate whether students returned to the Nicolet District for employment, after education, although Nicolet provided non-resident tuition for more enrollees in health-related fields in other Districts than for any other field of occupational education.

The literature did not provide any insight into the projected costs of implementing and sustaining various health career training programs. Cost data will be generated when and if it should appear feasible to develop specific training programs.

The literature did not reveal any information on the national, state or local level in relation to alternative ways of meeting service needs in lieu of inaugurating and sustaining various programs in educational agencies.

## Chapter Summary

The literature supported a pre-conceived assumption that the number of trained health care personnel in the District was substantially less than in other portions of the state. The review also supported the contention that when persons travel out of a primarily rural geographic area for training purposes, they do not return to seek out employment.

In general, the review of literature was helpful and provided some direction as related to the various dimension assessed in the study.

## CHAPTER III

## ANALYSIS OF THE DATA

The data indicates that the Nicolet District has approximately 46 physicians and 2 osteopaths. Twenty-six of the physicians practice in one of three medical clinics, 18 are employed in private practice and four are employed in hospitals. Only two physicians have established single practice offices in the District in the past five years; both were orthopedic surgeons who separated from District clinics. All recent physician growth has been through the clinics with an increase of 11 physicians in the past five years.

All clinics are actively recruiting physicians to meet service demands and are prepared to expand facilities as needed. A new clinic, located in Eagle River which will employ four physicians and two dentists is currently planned for construction.

Chiropractors, optometrists, podiatrists and dental laboratories were surveyed for the purposes of this study but little or no change or growth within the last 10 years was indicated by the data.

The increase in the number of dentists in the District has been much greater than physicians during the last five years. Thirteen new dentists have either brought existing practices or started new practices here, bringing the total number of practicing dentists in the District to 29 which includes two orthodontists. Eight dentists are currently looking for associates which indicates a continuing need for dentists.

Health care facility expansion has increased significantly. Currently there are 5 hospitals and 9 nursing homes in the District.

The number of patient care beds in hospitals and nursing homes has increased by over 50 percent from 757 in 1969 to 1,167 in 1974. Additional facilities for 274 beds will be built before 1980. The largest new facility will be a 112 bed hospital being built by the Howard Young Medical Center in Woodruff.

Patient and emergency admissions in District hospitals has also increased significantly. Total admissions rose from 9,970 in 1969 to 11,740 during fiscal year 1974. Emergency admission increased from 15,608 in 1969 to 26,588 in 1973.

The data were analyzed in the order of the objectives listed in Chapter I and to the extent possible were analyzed in relation to allied health, dental and nursing manpower needs.

OBJECTIVE A. DETERMINE THE EXTENT OF NEED FOR TRAINED PERSONNEL IN THE VARIOUS HEALTH CAREERS IN THE NICOLET VTAE DISTRICT.

Allied Health:

Allied health needs as shown in Table 5 indicated that every occupation had experienced some growth during the last five years. Five years ago there were no ward clerks or physicians assistants employed in the District, but there were a few employed during 1974. The number of respiratory therapists and medical secretaries has doubled during the last five years.

No significant turnover of personnel in the allied health category was noted by the physicians, osteopaths or nursing homes surveyed. Only one hospital of those surveyed indicated a significant turnover.

One full time opening in the District was identified for each of the following: ward clerk, electroencephalograph assistant, medical

TABLE 5

NICOLET DISTRICT HEALTH CARE MANPOWER FORCE NEEDS FOR 1974, 1975 and 1980

Paraprofessionals

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| NURSING | | | | | | | | |
| *Technical Nursing | 57 | 61 | 103 | 88 | 6 gave turnover --average 20% | 17 full, 1 part | 13 | 25 |
| *Practical Nursing | 13 | 17 | 28 | 24 | 3 gave turnover --average 20% | 6 full, 1 part | 8 | 12 |
| *Nursing Assistant | 214 | 92 | 384 | 105 | range 3-80% average 30-40% | 16 | 32 | 67 |
| *Ward Clerk | - | - | 9 | 3 | | 1 | 8 | 2 |
| Physicians Assistant | - | - | 1 | - | | | | |
| TECHNICAL | | | | | | | | |
| * Electroencephalograph Assistant | 2 | - | 2 | 1 | | 1 | | |
| *Medical Assistant | 10 | - | 13 | 4 | | 1 | | 1 |

TABLE 5 (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above Col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Certified Lab. Assistant | 2 | 2 | 3 | - | | | 1 | 3 |
| *Medical Lab. Assistant | | | | | | | 3 | 2 |
| *Medical Lab. Tech. | 9 | 2 | 14 | 2 | | 1 | 2 | 3 |
| *Operating Room Assist. | 9 | 2 | 15 | 1 | | | 2 | 4 |
| *Optometric Assist. | 1 | | 3 | 1 | | | | 1 |
| *Radiologic Technician | 10 | 4 | 19 | 4 | | | 2 | 3 |
| EKG Technician | 1 | 4 | 2 | 6 | | | 1 | 2 |
| Med. Technologist ASCP | 4 | 2 | 7 | 5 | | | 3 | 3 |
| THERAPEUTIC<br>*Occupational Therapy Assist. (activity aide) | 1 | 1 | 1 | 2 | | 1 part | 1 | 3 |

TABLE 5 (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Certified Occupational Therapy Assistant | | | | | | 1 part | 2 | 5 |
| *Physical Therapy Assist. | 1 | 3 | 2 | 7 | | 1 part | 3 | 5 |
| *Respiratory Therapist | 1 | | 4 | | | 1 part | 2 | 2 |
| Licensed Physical Therapist | 1 | 1 | 2 | 3 | | 1 | 1 | 2 |
| Registered Occupational Therapist | 1 | 1 | 1 | | | 1 part | 1 | 2 |
| DENTAL | | | | | | | | |
| *Dental Assistant | 14 | 6 | 35 | 7 | | | | |
| *Dental Lab. Tech. | 2 | | 2 | | | | | |
| *Dental Hygienist | | 5 | | 7 | | 7 full, 1 part | | |
| OTHER | | | | | | | | |
| *Medical Record Tech. | 4 | 3 | 9 | 2 | | 2 part | 1 | 3 |

TABLE 5 (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Record Library Aide | 4 | 2 | 6 | 4 | | 1 | 3 | 1 |
| Medical Secretary | 6 | 1 | 6 | 8 | | 1 | 4 | 4 |
| TOTAL | 367 | 209 | 611 | 284 | | | 93 | 155 |

* Occupations offered by existing Wisconsin Vocational, Technical and Adult Education schools

assistant, medical laboratory technician, medical record aide and medical secretary. One part-time position was identified for occupational therapy assistant, certified occupational therapy assistant (COTA), physical therapy assistant, and respiratory therapist. Two part-time positions were identified for medical record technicians. Current employment levels of allied health workers by hospitals and nursing homes or medical practitioners are shown in Tables 6 and 7.

Other questions designed to identify needs for allied health workers included:

> Question: Are there any other health care occupation personnel who are presently not available who would be hired if available: If so, what?

For hospitals and nursing homes, this question brought four requests for medical record technicians, three for physical therapy assistants, two for inhalation therapists, and one each for an occupational therapy assistant, library aide, male nurse assistant, medical transcriber, ward clerk, and third part billing clerk. Medical practitioners and clinics did not respond to the question.

When asked if there were any facilities or services that had to be closed down due to lack of staff all practitioners, hospitals and nursing homes responded negatively.

> Question: What types of patients regularly had to be referred out of this agency? What type of personnel would have allowed them to receive treatment?

All practitioners, hospitals and nursing homes indicated that physicians in certain specialties were the only type of personnel which would have allowed patients to receive treatment in their agency instead of being referred.

TABLE 6

NICOLET DISTRICT ALLIED HEALTH MANPOWER NEEDS
FOR 1974, 1975 & 1980 IN HOSPITALS AND NURSING HOMES

| | 1969 | | 1974 | | % of annual turnover | openings present | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Ward Clerk | - | - | 9 | 3 | | 1 | 8 | 2 |
| Physicians Assistant | - | - | - | - | | | | |
| Electroencephalograph Assistant | 2 | - | 2 | 1 | | 1 | | |
| Medical Assistant | - | - | - | - | | | | |
| Certified lab. Assist. | 2 | 2 | 3 | - | | | 1 | 3 |
| Medical Lab. Assistant | | | | | | | 3 | 2 |
| Medical Lab. Technician | 6 | 2 | 9 | - | | | 2 | 3 |
| Operating Room Assist. | 9 | 2 | 15 | 1 | | | 2 | 4 |

TABLE 6 (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Optometric Assistant | | | | | | | | 1 |
| Radiologic Technician | 7 | 4 | 15 | 2 | | | 2 | 3 |
| EKG Technician | 1 | 4 | 2 | 6 | | | 1 | 2 |
| Occupational Therapy Assistant | 1 | 1 | 1 | 2 | | 1 part | 1 | 3 |
| Certified Occupational Theraphy Assist. (COTA) | | | | | | 1 part | 2 | 5 |
| Physical Therapy Assist. | 1 | 3 | 2 | 7 | | 1 part | 3 | 5 |
| Respiratory Therapist | 1 | | 4 | | | 1 part | 2 | 2 |
| Medical Record Tech. | 3 | 3 | 7 | 2 | | 2 part | 1 | 3 |
| Record Library Aide | 4 | 2 | 6 | 4 | | 1 | 3 | 1 |
| Medical Secretary | 5 | 1 | 4 | 7 | | 1 | 4 | 3 |
| TOTAL | 42 | 24 | 79 | 35 | | | 35 | 42 |

TABLE 7

NICOLET DISTRICT ALLIED HEALTH MANPOWER NEEDS
FOR 1974, 1975 & 1980 IN ALL PRACITIONERS' OFFICES

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Ward Clerk | | | | | | | | |
| Physicians Assistant | | | 1 | | | | | |
| Electroencephalograph Assistant | | | | | | | | |
| Medical Assistant | 10 | | 13 | 4 | | 1 | | possibly 1 |
| Certified Lab. Assist. | | | | | | | | |
| Medical Lab. Assist. | | | | | | | | |
| Medical Lab. Tech. | 3 | | 5 | 2 | | 1 | | |
| Operating Room Assist. | | | | | | | | |
| Optometric Assistant | 1 | | 3 | 1 | | | | |

TABLE 7 (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Radiologic Technician | 3 | | 4 | 2 | | | | |
| EKG Technician | | | | | | | | |
| Occupational Therapy Assistant | | | | | | | | |
| Certified Occupational Therapy Assist. (COTA) | | | | | | | | |
| Physical Therapy Assist. | | | | | | | | |
| Respiratory Therapist | | | | | | | | |
| Medical Record Tech. | 1 | | 2 | | | | | |
| Record Library Aide | | | | | | | | |
| Medical Secretary | 1 | | 2 | 1 | | | | |
| TOTAL | 19 | 0 | 30 | 10 | | | 0 | 1 |

No significant employment or personnel needs were evident for this group of workers. The number of employees was small, with none of the occupations in this group of workers accounting for more than 25 workers.

Dental Manpower:

The number of dental assistants in the District has more than doubled during the 1969-1974 interim. The number of dental hygienists increased by two while the number of dental lab technicians experienced no increase, as indicated in Table 8.

Turnover in dental assistants was higher than in most other occupations measured. Seven dentists reported a personnel turnover rate of one and one half years or less for dental assistants, four dentists reported an average turnover rate of every three years, five employed no personnel, and thirteen had retained their dental assistants for more than three years. Turnover rates in this group could not be measured accurately as nearly one half of the dentists surveyed had been in practice in the District for five years or less. There were no indications of critical need for dental assistants.

No turnover in dental hygienists was reported by any of the dentists surveyed, although a substantial need appears to exist for dental hygienists. There are currently seven full-time and two part-time position openings for dental hygienists. All seven of the hygienists employed in the District worked only on a part-time basis.

When asked if there were other health care personnel who were presently not available but who would be hired if available, twenty-five percent of the 29 dentists indicated a need for dental hygienists,

TABLE 8

NICOLET DISTRICT DENTAL MANPOWER NEEDS
FOR 1974, 1975 and 1980

| | 1969 | | 1974 | | % of annual turnover | Present openings | Future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Dental Assistant | 14 | 6 | 35 | 7 | varies from none to one every 1 1/2 years | 0 | * | * |
| Dental Lab. Tech. | 2 | | 2 | | none | 0 | * | * |
| Dental Hygienist | | 5 | | 7 | none | 8 | * | * |
| Prevention Assistant | | | | | | 2 | | |
| TOTAL | 16 | 11 | 37 | 14 | | 10 | | |

*Twenty-five percent of the dentists could not pinpoint their future needs saying that if and when they took an associate they would determine their dental personnel needs. One dentist said he had been in practice too short a time to project future needs.

while two dentists indicated a need for prevention assistants. No prevention assistants were employed in the District. Prevention assistants teach patients how to maintain teeth by brushing, flossing and eating the right foods. They are employed to relieve dentists and dental hygienists from these duties.

When asked if there were any facilities that had to close due to lack of staff; two dentists indicated that a hygienist would enable them to expand their services. Several dentists indicated that they had operatories which were not fully used. In those cases, the dentists were actively seeking an associate dentist or a dental hygienist.

When asked what types of patients had to be referred and what personnel would allow them to receive treatment, all dentists indicated that patients were referred for dental specialty work such as orthodontics or oral surgery. In addition several dentists referred patients due to a lack of time to take care of them, and many were not accepting new patients for the same reason.

Nursing Manpower:

District nursing manpower data contained in Table 9, indicates that the majority of the District's health care personnel fall within the nursing category. All three levels of nursing experienced substantial growth during the 1969-1974 interim with full-time employees nearly doubling in all three categories. The number of registered nurses increased at a rate of 15 per year, the number of LPNs increased by four per year and nursing assistants increased by 37 per year.

These increases are reflected in the District health care facility expansion during the last five years. Although only one agency has

been established in the last five years all but two either started or enlarged their facilities during this time. Of the two which have not, one was a hospital completely rebuilt in 1962 and the other was a nursing home which was planning to build a new 80 bed facility.

Only 2 hospitals and 3 nursing homes registered any turnover in RN's with the annual average established at 20 percent per year. Only one medical office registered a turnover (one RN every 4-6 years).

One hospital and two nursing homes, indicated an annual turnover of LPNs, which was estimated to be 20 percent.

Nearly 100 percent of the patient care facilities indicated a turnover in nursing assistants, with annual turnover percentages ranging from three to 80 percent. The average annual turnover of employed nursing assistants ranged from 30-40 percent.

The data indicates that present openings (1974) existed in all three levels of nursing occupations with 18 RN openings, seven LPN openings and 16 nursing assistants openings.

The data further indicates that the 18 RN openings identified for 1974 wereconsistent with the 1969-1974 annual average increase of 15 per year. The seven LPN openings for 1974 nearly doubled the annual average increase of four positions as established during the 1969-1974 interim. The 16 nursing assistants openings for 1974 represented a significant decrease in available employment opportunities as the annual average increase for the 1969-1974 interim were 37 per year. Projected needs for nursing assistants for 1975, beyond the 16 openings that currently existed, was 32.

Supplementary questions intended to provide additional information regarding the need for nursing personnel in the District was included.

When asked if there were health care personnel who were presently not available for hire who would be hired if available, the physicians and osteopaths reported that they did not experience difficulty in securing nurses for their offices. Many have employed the same RN for more than 10 years. Clinics have experienced little difficulty in filling RN or other allied health occupation vacancies. One clinic official indicated that clinics and single practice offices can offer RN's regular daytime hours, free weekends, competitive salaries, and benefits. The data imply that a medical office situation represents a first choice over a hospital or nursing home for many RNs. The data did not indicate whether an RN vacancy is created in a nursing home or hospital when an RN is hired in a medical office.

Only one hospital and two nursing homes indicated no present needs for nursing manpower. The majority of nursing homes and hospitals expressed a concern that no reserve of RN applications were on file should an opening occur in their agency.

Most of the employment and openings for nursing manpower existed in hospitals and nursing homes, as indicated in Tables 10 and 11.

Questions about whether facilities or services were curtailed due to lack of staff and the types of patients which had to be referred out of an agnecy did not indicate a need for nursing personnel. In almost all cases, a need for physicians with certain specialities such as neuro-surgery or a cardiac specialty were indicated.

OBJECTIVE B. DETERMINE THE PROJECTED NEED FOR TRAINED PERSONNEL IN VARIOUS HEALTH CAREERS IN THE DISTRICT TO SATISFY THE FUTURE DEMAND ASSOCIATED WITH EXPANDED SERVICES CURRENTLY BEING EXPERIENCED.

Allied Health Manpower:

Needs for 1975 and 1980 are shown in Table 6. For 1975 the

greatest need indicated was for eight ward clerks. The data indicates a need for four medical secretaries; three medical laboratory assistants, physical therapy assistant, and record library aides; two medical laboratory technicians, operating room assistants, radiologic technicians, COTAs, and respiratory therapists; and one certified laboratory assistant, EKG technician , occupational technician therapy assistant. No needs were expressed for physicians assistants, EEG assistants, medical assistants, or optometric assistants.

The data indicates that the needs for 1980 included five COTAs and physical therapy assistants; four operating room assistants and medical secretaries; three certified laboratory assistants, medical laboratory technicians, radiologic technicians, occupational therapy assistants and medical record technicians; two ward clerks, medical laboratory assistants, EKG technicians, respiratory therapists; and one medical assistant, optometric assistant and record library aide.

All personnel needed in 1980, except for medical and optometric assistants were also needed in 1975. For future needs for allied health workers for nursing homes and hospitals, and for single and multiple practitioners, refer to Tables 6 and 7.

Potential changes in State Statute within the next few years may prevent anyone but a licensed radiologic technician from operating x-ray equipment. This could significantly increase the need for radiologic technicians within the Nicolet District and Wisconsin. Actual numbers cannot be projected at this time.

Indication of future expansion of health facilities within the District suggested where the future needs may occur. The three medical

clinics in the District are actively recruiting physicians and are prepared to expand facilities to meet service demands. A new clinic is currently being planned; hospitals and nursing homes continue to expand despite an increase of patient care beds in excess of 50 percent during the last five years. The Howard Young Medical Center currently has a 62 bed hospital which will be used as a nursing home Howard Young officials estimate that their present allied health care staff will have to be doubled to staff the new hospital facility which would be realized over a ten year period.

Present needs data for allied health personnel and actual numbers of projected needs were not large enough to be considered significant.

Dental Manpower:

Projected dental manpower needs are indicated in Table 8. Twenty-five percent of the dentists did not assess their needs because they were looking for associates and could not realistically approximate needs until an associate was found. The remaining dentists did not anticipate any staff additions.

Questions about future expansion brought three positive responses. One dentist planned to build a new office and two dentists planned to add operatories. Most dentists were indefinite about future plans for expansion.

A factor influencing the future needs for dental assistants in the District was the concept of "expanded duties". The "expanded duty" concept would allow dental assistants to perform some of the functions currently done by a dentist. Expanded duties would include

performing preliminary oral examinations; polishing coronal surfaces of teeth; applying local anesthetic agents; placing and removing matrices; placing and removing temporary restorations; placing, carving and finishing amalgam restorations; placing and finishing resin, composite and silicate restorations; and; removing excess cement from coronal surfaces of teeth. All of these functions must now be done by a dentist according to Law.

Momentum to change such state laws is currently under way in several states including Wisconsin. If the laws are changed, only certified dental assistants would be able to perform expanded duties, and only graduates of a dental assistant program could be certified. Since only one or two of the District dental assistants are certified at the present time, legalizing expanded duties could influence the future need for dental assistant programs in the District.

With 25 percent of the dentists seeking associates and the question of expanded duties still unsettled, a great expansion potential exists for dentistry in the District. As yet, that potential and the answer to future dental manpower needs is indefinite.

Nursing Manpower:

Future needs for nursing manpower are indicated in Table 9. Present and future needs are high at all three levels. Thirteen RNs, eight LPNs, and 32 nursing assistants will be needed in 1975. Data from Tables 10 and 11 indicate that future needs like present needs exist moly in the hospitals and nursing homes.

Figures for 1975 reflect the growth rate per year for the last five years. The number of RNs has been increasing each year by

TABLE 9

NICOLET DISTRICT NURSING MANPOWER NEEDS
FOR 1974, 1975 and 1980

| | 1969 | | 1974 | | % of annual turnover | present openings | Future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Technical Nursing | 57 | 61 | 103 | 88 | 6 gave turnover average 20% | 17 full, 1 part | 13 | 25 |
| Practical Nursing | 13 | 17 | 28 | 24 | 3 gave turnover average 20% | 6 full, 1 part | 8 | 12 |
| Nursing Assistant | 214 | 92 | 384 | 105 | 3-80% average 30-40% | 16 | 32 | 67 |
| TOTALS | 284 | 170 | 515 | 217 | | | 53 | 104 |

approximately 15 with 13 openings already shown for 1975. LPNs have been increasing by four each year, while for 1975 they are already doubled at eight. Nursing assistants have been increasing by 37 per year, while there are needs shown for 32 for 1975.

Identified needs for 1980 included 25 RNs 12 LPNs and 67 nursing assistants. Future expansion as it pertains to nursing manpower has been noted in the discussion of future allied health manpower needs.

Howard Young Medical Center officials estimate a doubling of their present number of employees in the next ten years in order to staff a new 112 bed facility and convert their present 62 bed facility into a nursing home. With a present nursing staff of 45 RNs, 15 LPNs and 36 nursing assistants, this estimate has implications for nursing manpower in the Nicolet District.

OBJECTIVE C. DETERMINE THE SPECIFIC HEALTH CAREERS IN THE DISTRICT EXPERIENCING CRITICAL SHORTAGES OF TRAINED PERSONNEL.

Allied Health Manpower:

Minimal numbers representing present and future needs in allied health manpower tend to indicate no critical need. Certain occupations such as respiratory therapists have doubled in the last five years while other occupations such as ward clerks show needs for 1975 of 60 percent above the present number of employees. However, in actual numbers this means an increase of from one to four respiratory therapists and a projected need of eight over the present 12 ward clerks.

Questions designed to point out critical needs did not provide insight to possible future needs.

When asked what personnel were needed most in each agency in terms of the greatest number needed, and the greatest need for medical

service to be provided, no occupations in the allied health manpower category were mentioned by any of the agencies interviewed.

Dental Manpower:

No critical shortage of dental assistants seemed to exist in the District. The future needs for assistants could not be assessed because a large number of dentists were looking for associates and could not presently determine their needs for assistants. The acceptance or rejection of the "expanded duties" concept could also influence the need for dental assistants.

The need for dental hygienists is critical because there are presently more openings for hygienists than there are hygienists employed in the District. The data revealed that only nine hygienists were needed.

The question designed to pinpoint critical needs and concerns of dentists did nothing more than echo the needs for seven full-time and two part-time hygienists.

Nursing Manpower:

The most critical needs were seen in all three levels of nursing care. In terms of "turnover", "present openings", and "future needs for 1975 and 1980", RN, LPN, and nursing assistant data revealed critical needs. Refer to Appendix C for data relating to all three manpower areas surveyed.

A question designed to point out critical needs for concerns of the employers reinforced the need for nursing personnel.

When asked, what personnel were needed most in terms of the greatest number, three hospitals indicated nursing assistants and the remaining two hospitals indicated RNs and LPNs.

Only two of the nine nursing homes did not express critical concern for personnel. One was a facility which had dropped from state skill to intermediate care status within the last five years because sufficient number of RNs could not be recruited to maintain state skill status.

The second was a nursing home, located near Laona. This facility did not express concern for RNs because it had absorbed the RN's previously employed by the Laona Hospital. The Laona Hospital was closed in 1968 due to severe staffing problems.

Three nursing homes were concerned in terms of number of assistants, three were concerned about RNs and LPNs and one was concerned about assistants and RNs.

All hospitals questioned about concerns in terms of greatest need for medical service provided as opposed to number of employees, responded with concerns for RNs. One hospital was concerned with the supply of LPNs in addition to RNs. Five nursing homes voiced concern for RNs in terms of need for medical service provided.

Although physicians and osteopaths experienced no shortage in RN's and LPN's in their office situation, most of them strongly emphasized a concern for the shortage of RNs and LPNs in hospitals and nursing homes. As Tables 10 and 11 show, the RN and LPN openings and future need reflected almost entirely the needs of the District's nursing homes and hospitals.

These statistics did not completely reflect the nursing situations. Most of the District's nursing homes are working with the minimum professional nursing staff (RNs and LPNs) required by present state regulations.

TABLE 10

NICOLET DISTRICT NURSING MANPOWER NEEDS
FOR 1974, 1975 and 1980 IN HOSPITALS AND NURSING HOMES

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Technical Nurse | 51 | 56 | 93 | 78 | Six agencies gave a turnover average of 20% | 17 full, 1 part | 12 | 25 |
| Practical Nurse | - | - | - | - | Three agencies gave a turnover average of 20% | 3 full, 1 part | 8 | 12 |
| Nurse Assistants | 214 | 92 | 384 | 105 | 3 - 80% 30-40% average | 16 | 32 | 67 |
| TOTALS | 265 | 148 | 477 | 183 | | | 52 | 104 |

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TABLE 11

NICOLET DISTRICT NURSING MANPOWER NEEDS
FOR 1974, 1975 & 1980 IN ALL PRACITIONERS' OFFICES

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| Technical Nurse | 6 | 5 | 10 | 10 | none--1 practitioner gave a turnover of 1 every 4-6 years | - | 1 | - |
| Practical Nurse | 1 | - | 1 | - | none | 3 LPNs | - | - |
| Nursing Assistant | - | - | - | - | - | - | - | - |
| TOTALS | 7 | 5 | 11 | 10 | | | 1 | 0 |

A proposed Wisconsin Administrative Code raising the percent of professional nursing staff (RNs and LPNs) per bed in state skill and intermediate care nursing homes was scheduled to be implemented May 24, 1974. According to the Vice-President of the State Council of State Skilled, Limited and Personal Care Nursing Homes, this regulation could mean that an approximate one and one-half million dollar tax liability increase in professional nursing care would be needed to meet the proposed state standards, with respect to nursing homes in Wisconsin.

The new regulations would require five of the District's eight state skill homes to hire more RNs and LPNs. These nursing homes officials confided that they would have difficulty recruiting more nurses. The District's ninth facility as previously mentioned had already dropped from state skill to intermediate care because of a lack of RNs.

Implementation of the law would increase the professional nursing needs of the District to levels much greater than indicated in Table 9.

Needs for nursing assistants can be seen from past growth, present and future needs, and yearly turnover. The total number of assistants employed has been increasing by an average of 37 per year for the past five years. A need for thirty-two has already been registered for 1975.

A turnover averaging 30-40 percent of nearly 500 assistants employed at present implies that 150-200 assistants must be replaced every year. Turnovers and an average increase of 37 per year implies that 187 to 237 nursing assistants would be needed each year.

OBJECTIVE D. DETERMINE THE EXTENT TO WHICH THE NEED FOR TRAINED PERSONNEL IN VARIOUS HEALTH OCCUPATIONS IN THE DISTRICT ARE BEING MET BY OTHER AGENCIES.

Exact data relating to this objective was not attainable as some agencies could only indicate where the education had been received or that the employee had been educated out of the District.

Allied Health Manpower:

Table 12 shows the location of education for the allied health workers in the District. All medical laboratory assistants, EKG assistants, physical therapy assistants, and library aides were trained at the agency where they were employed.

High percentages of ward clerks; operating room assistants and occupational therapy assistants were trained at the agency of current employment. All physicians assistants, EEG assistants and COTAs were trained outside the District.

Some form of on-the-job training had been used for employees in all other allied health occupations in the District.

St. Mary's Hospital in Rhinelander trained the most people now employed in other agencies. One medical assistant was a former St. Mary's nurse assistant. Five laboratory technicians, three radiologic technicians, one medical records technician and one medical secretary trained at St. Mary's were employed elsewhere.

The data indicates that more personnel were educated in Minneapolis, in the armed forces, or by correspondence courses from Chicago, than in any Wisconsin city. Wausau and Milwaukee each educated five District allied health workers and Marshfield educated four. Marinette, Green Bay, Lakeshore Technical at Sheboygan and Neenah each educated one person. Out-of-state training sites also included Houghton, Mich

TABLE 12

LOCATION OF INSTITUTION PROVIDING THE EDUCATIONAL PREPARATION FOR ALLIED HEALTH MANPOWER IN THE NICOLET DISTRICT

| | In the District | | Out of District | |
|---|---|---|---|---|
| | On-the-job | Other | In-state | Out-of-state |
| Ward Clerk | 10 | | 1 | |
| Physician Assist. | | | | 1 |
| EEG Assistant | | | 1 | |
| Medical Assist. | 12 | 2 | 2 | |
| Certified Lab. Assist. | 3 | | | |
| Medical Lab Tech. | 2 | 5 | 1 | 7 |
| OR Assistant | 9 | | 2 | 3 |
| Optometric Assist. | 3 | | 1 | |
| Radiologic Tech. | 4 | 3 | 9 | 4 |
| EKG Tech. | 5 | | | |
| Occupational Therapy Assist. | 3 | | | 1 |
| COTA | | | | |
| Physical Therapy Assist. | 6 | | | |
| Respiratory Therapist | 1 | | 1 | 1 |
| Medical Records Tech. | 2 | 1 | | 9 |
| Record library Aide | 4 | | | |
| Medical Secretary | 7 | 1 | | |
| TOTALS | 71 | 12 | 18 | 26 |

Springfield, Ill.; the University of North Dakota at Grand Forks and another unspecified location in Illinois (Table 13).

In general, District allied health personnel needs were met by on-the-job training by the employing agency, St. Mary's Hospital in Rhinelander, armed service training, or correspondence courses, in that order. Where only location of education was available, Minneapolis trained more District workers than any one Wisconsin city.

The actual numbers of allied health workers were so small that statistically significant data could not be projected. In general, educational needs seemed to be met primarily by on-the-job training in the District and secondarily by out-of-state agencies.

Dental Manpower:

Data on the location of education for dental workers is shown in Table 14. All dental assistants but one were trained on-the-job in the District. The one exception was trained at Normandale Jr. College in Minnesota.

Four of the seven District hygienists were trained out of state. Two were trained at Loyola University in Illinois, and one each at Temple University in Maryland and the University of Minnesota. Three were trained at Marquette University in Wisconsin. One District dental lab technician was self taught and the other was trained in Chicago.

District dental employees seemed to be educated primarily on-the-job and secondarily, out-of-state.

Nursing Manpower:

Data on the location of education for nursing personnel can be seen on Table 15. Most agencies were able to provide information about

TABLE 13

OUT-OF-DISTRICT LOCATIONS OF INSTITUTION PROVIDING EDUCATIONAL PREPARATION FOR ALLIED HEALTH MANPOWER IN THE NICOLET DISTRICT

| | |
|---|---|
| Armed Forces | 7 |
| Chicago Correspondence Course | 7 |
| Minneapolis, Minn. | 5 |
| Milwaukee | 5 |
| Wausau | 5 |
| Marshfield | 4 |
| Marinette | 1 |
| Green Bay | 1 |
| Lakeshore Technical at Sheboygan | 1 |
| Neenah | 1 |
| Houghton, Mich. | 1 |
| Springfield, Ill. | 1 |
| University of North Dakota | 1 |
| Illinois | 1 |

TABLE 14

LOCATION OF INSTITUTION PROVIDING THE EDUCATIONAL PREPARATION OF NICOLET DISTRICT DENTAL WORKERS

| | In the District | | Out of District | | Location of Out-of-State Training |
|---|---|---|---|---|---|
| | On-the-job | Other | In-State | Out-of-State | |
| Dental Assistants | 41 | | | 1 | Normandale Junior College, Minn. |
| Dental Hygienists | | | 3 | 4 | Chicago |
| Dental Lab. Tech. | | | | 2 | University of Minnesota<br>University of Maryland |
| TOTAL | 41 | | 3 | 7 | |

TABLE 15

LOCATION OF INSTITUTION PROVIDING EDUCATIONAL PREPARATION OF NICOLET DISTRICT NURSING MANPOWER

| | In the District | | Out of District | |
|---|---|---|---|---|
| | On-the-job | Other | In-State | Out-of-State |
| RN | - | - | 75 | 94 |
| LPN | - | 3 | 20 | 13 |
| Nurse Assistant | 469 | | 1 | |
| TOTALS | 469 | 3 | 96 | 107 |

NOTE:

The location of the institution providing educational preparation for 16 nursing personnel was undeterminable other than that it was not completed at the agency where the personnel were employed.

the location of education but had difficulty identifying the educational agency. Table 15 also indicated that 94 District RNs were trained out-of-state while 75 were trained in Wisconsin.

Illinois, Minnesota and Pennsylvania trained most of the out-of-state RNs. Milwaukee and Madison schools of nursing trained more District RNs than any other Wisconsin cities. Of Nicolet's neighboring VTAE Districts, six RNs were trained in Wausau, five in Marshfield and three in Green Bay (Table 16).

The data suggests that many RNs enter the District only because their husbands are transferred here. RNs educated in neighboring VTAE District are not coming to the Nicolet District in any significant numbers.

The data indicates that 20 LPNs employed in the District were educated in Wisconsin, 13 out of state and three by waiver. Wisconsin trained more Nicolet District LPNs than other states, but most were trained in Milwaukee.

Only 17 of the nursing assistants were trained outside the District, while 469 were trained through in-service programs within the District.

The statistics for nursing manpower adds significant data to the trends that on-the-job training is the educational route for most of the health care workers in the District. When education is out of the District, it is located out-of-state more often than in-state. The latter factor is strikingly evident in the RN catagory.

OBJECTIVE E. DETERMINE IF NICOLET RESIDENTS WHO ENROLL IN HEALTH CAREER PROGRAMS IN OTHER DISTRICTS RETURN TO THE NICOLET DISTRICT FOR EMPLOYMENT.

Allied Health Manpower:

Data referring to the location of education compared with location

TABLE 16

OUT-OF-DISTRICT LOCATION OF INSTITUTION PROVIDING EDUCATIONAL PREPARATION FOR NICOLET DISTRICT NURSING MANPOWER

| | RN | LPN |
|---|---|---|
| Wisconsin | 75 | 20 |
| Illinois | 50 | 4 |
| Minnesota | 10 | 3 |
| Pennsylvania | 7 | |
| Indiana | 5 | |
| Michigan | 4 | 4 |
| Ohio | 4 | |
| Texas | 1 | 1 |
| Maryland | 1 | |
| U.S. Army | 1 | |
| California | 1 | |
| Massachusetts | 1 | |
| N. Dakota | 1 | |
| S. Dakota | 1 | |
| New York | 1 | |
| Iowa | 1 | |
| Missouri | 1 | |
| Mississippi | 1 | |
| Ontario, Canada | 1 | |
| Louisiana | | 1 |
| By Waiver | | 3 |
| Total In-State | 75 | 20 |
| Total Out-of-State | 94 | 13 |
| Total measured | 169 | 36 |

of birth is shown in Table 17. Numbers of people born but not trained in the District are smaller than numbers of people "born and trained in the District", "trained but not born in the District", and "not born or trained in the District".

Table 18 indicates the location of work following graduation of students who left the District for allied health occupation training in other VTAE Districts. Only two students who left the District for training returned to the District to work, four worked in other areas of the State and one was not working.

Although the number involved is small the national trend that students do not return home for employment purposes after training in other locations was supported by the data.

Dental Manpower:

Table 19 shows data on location of education compared with location of birth. Only one dental hygienist from the District received education outside the District and returned to the District to practice. Six dental hygienists moved into the District after receiving their education. One dental lab technician was a native who labeled himself "self taught". The other technician received his education before entering the District. Twenty-two of the dental assistants trained on-the-job in the District were natives, while 19 of the assistants received training after moving here. Only one dental assistant was educated outside the District.

Table 20 showing location of work following graduation of Nicolet District students indicated that one assistant and no laboratory Technician or hygienists returned to the District after training in another VTAE Districts. Three assistants, one laboratory technician and one dental hygienist were working elsewhere in the state. Two other assistants who completed their education were not working.

TABLE 17

NICOLET DISTRICT ALLIED HEALTH WORKERS
LOCATION OF EDUCATION VS. LOCATION OF BIRTH

| | Born & Trained in District | Born not trained in District | Not born but trained in District | Not Born or trained in District |
|---|---|---|---|---|
| Medical Lab Tech. | 1 | 3 | 1 | 2 |
| Medical Assistant | 8 | 4 | 5 | |
| Radiologic Tech. | 3 | 3 | 4 | 6 |
| Medical Secretary | 5 | | 2 | 1 |
| Physicians Assist. | | | | 1 |
| Medical Record Tech. | 6 | 1 | 1 | 6 |
| EKG Tech. | 1 | | 4 | |
| OR Assistant | 6 | 1 | | 3 |
| Occupational Therapy Assist. | 2 | 1 | 1 | |
| Physical Therapy Assist. | 3 | | 2 | |
| COTA | | | | 1 |
| Ward Clerk | 3 | | 4 | |
| Library Aide | 1 | | | |
| Certified Lab Assist. | | | 2 | |
| EEG Assistant | | | | 1 |
| Respiratory Therapist | | | 2 | |
| Optometric Assist. | | | | |
| TOTALS | 39 | 13 | 28 | 21 |

TABLE 18

LOCATION OF WORK FOLLOWING GRADUATION OF STUDENTS WHO LEFT THE NICOLET DISTRICT FOR ALLIED HEALTH OCCUPATION TRAINING IN OTHER VTAE DISTRICTS

| | Returned to Nicolet District | Not return | Unemployed |
|---|---|---|---|
| OR Assistant | 1 | 11 | |
| Medical Assistant | 1 | 1 | 1 |
| Medical Lab. Tech. | | 1 | |
| TOTALS | 2 | 13 | 1 |

TABLE 19

NICOLET DISTRICT DENTAL WORKERS
LOCATION OF EDUCATION VS. LOCATION OF BIRTH

| | Born & Trained in District | Born not trained in District | Not born but trained in District | Not born or trained in District |
|---|---|---|---|---|
| Dental Assistants | 22 | | 19 | 2 |
| Dental Hygienists | | 1 | | 6 |
| Dental Lab. Technicians | | | | |
| TOTALS | 22 | 1 | 19 | 8 |

TABLE 20

LOCATION OF WORK FOLLOWING GRADUATION OF STUDENTS
WHO LEFT THE NICOLET DISTRICT FOR DENTAL OCCUPATION TRAINING
IN OTHER VTAE DISTRICTS

| | Returned to Nicolet District | Not return | Unemployed |
|---|---|---|---|
| Dental Assistant | 1* | 4 | 2 |
| Dental Hygienist | | 1 | |
| Dental lab. Tech. | | 1 | |
| TOTALS | 1 | 6 | 2 |

*This dental Assistant is no longer working for a Nicolet District dentist.

The actual numbers in the data were too small to be significant although it was evident that dental hygienists did not return to the District after training in other Districts. The dental assistants catagory, however, is seen as primarily on-the-job training and no trends could be determined from only two dental laboratory technicians.

Nursing Manpower:

Table 21 presents data on location of education compared with location of birth for nursing personnel. Forty RNs were born in the District and returned after receiving their education. This number compared with 99 who were not born in the District and entered the District after their education.

Twenty LPNs were natives of the District and 21 were not. This data tends to indicate that the chances of a native returning to the District after training are about equal to the chance of someone born and raised elsewhere moving into the District.

Nurse assistant data (Table 15) indicates that most assistants are born and educated in the District. Data on nursing assistants indicated that students do not leave the District for education in that occupation. Data from Table 21 also suggests that jobs where training was done in the District tend to be filled by people not born or raised in the District.

Table 22 indicates that five natives who received RN degrees did not return to the District to work. Only one RN native returned to the District.

Although four LPN graduates returned to the District for employment, eight LPN graduates did not return to the District. The location of two other LPN graduates was undeterminable.

TABLE 21

NICOLET DISTRICT NURSING WORKERS
LOCATION OF EDUCATION VS. LOCATION OF BIRTH

| | Born & Trained in District | Born not trained in District | Trained not born in District | Not Born or trained in District |
|---|---|---|---|---|
| RN | | 40 | | 99 |
| LPN | | 20 | | 21 |
| *Nursing Assistant | 300 | 2 | 80 | 9 |
| TOTALS | 300 | 62 | 80 | 129 |

*This data was not available from one agency in the District.

TABLE 22

LOCATION OF WORK FOLLOWING GRADUATION OF STUDENTS WHO LEFT THE NICOLET DISTRICT FOR NURSING OCCUPATION TRAINING IN OTHER VTAE DISTRICTS

| | Returned | Not return | Unemployed |
|---|---|---|---|
| RN | 1 | 5 | |
| LPN | 3 | 8 | 1 |
| Nurse Assistant | 1 | | |
| TOTALS | 5 | 13 | 1 |

Only one native enrolled in a nursing assistant program outside the Nicolet District and he returned to the District for Employment.

Data from Tables 21 and 22 indicates that a significant number of students who go to other districts for RN or LPN training do not return. The majority of RNs and LPNs employed in the District were not originally from the District.

OBJECTIVE F. DETERMINE ALTERNATIVE WAYS TO MEETING SERVICE NEEDS IN THE DISTRICT THAT WOULD BE MORE ADVANTAGEOUS THAN INAUGURATING AND SUSTAINING VARIOUS PROGRAMS AT NICOLET COLLEGE AND TECHNICAL INSTITUTE.

Allied Health Workers:

That portion of the questionnaire which indicated "title or occupation", "institution providing the educational preparation" and "how long lived in this VTAE District" was designed to identify alternative approaches to education other than out-of-District schooling or on-the-job training in the District.

The only data revealed as an alternative to out-of-District education or on-the-job training within the District was a correspondence course used to certify medical record technicians. The course was provided by the American Medical Record Association in Chicago. Seven of the fourteen District medical record technicians were trained and certified through correspondence study.

Employers were asked to describe any preparatory training which was done in their agency. The question revealed only one alternative means of education beside on-the-job training. St. Mary's Hospital in Rhinelander conducted a radiologic technician course and had been authorized to train eight students per year. The course is conducted independently of the hospital's radiologic technician needs.

Both St. Mary's and Howard Young Medical Center in Woodruff have laboratories approved for teaching Certified Lab. Assistants (CLA) and providing internship facilities for Medical Laboratory Technicians (MLT) for District One Technical Institute in Eau Claire. Both facilities train only enough CLA's to meet their own needs.

Laboratory personnel at Howard Young indicated that they were not training anyone at the moment and were going to temporarily discontinue the internship service to Eau Claire until the new hospital facility had been completed.

Information related to continuing education requests did not reveal any general trends in hospitals and nursing homes. The need for staff upgrading related to ultrasound and EEG techniques, accounting, personnel management, drug interaction and new drugs, was indicated by hospitals and nursing homes. All nursing homes and all but one hospital wanted some type of continuing education for their employees.

A concern expressed by physicians and osteopaths practicing in either single or multi-practice offices related to the training of people in third party and medicare billing, medical office procedures including medical shorthand and terminology and secretarial skills. The same concern was expressed by five of the fifteen agencies interviewed.

As with all other data on allied health workers, the actual numbers involved were minimal. The fact that 50 percent of the medical record technicians were trained and certified through a correspondence course suggested that the course may be a feasible alternative.

Dental Manpower:

The only alternative to out-of-district education or on-the-job training within the District was a correspondence course from the University of South Carolina used by one dentist to train and certify dental assistants.

The question about training done in the agency revealed only on-the-job training for assistants.

Continuing education requests from dentists included: updating and expanding duties for assistants, public relations; dental office procedures and third party billing. Single requests were received for dental terminology, expanded duties for hygienists, dental prevention, laboratory procedures, and dental assistant certification maintenance course.

Twenty-five percent of the dentists did not want continuing education courses for various reasons including: no staff, retiring, did not want to change procedures or techniques.

Nursing Manpower:

The only alternatives to on-the-job or out-of-district training identified for nursing manpower was the LPN "waiver". This method was used by three District LPNs.

The waiver, known as the "Granny Clause", is no longer a viable alternative. It was used only in 1955 under the training programs for LPN's who were initiated in Wisconsin. Persons already working in a practical nurse capacity in Wisconsin were allowed to test and waive the course if skills were adequate to secure a license to practice. Since then, the preparatory LPN courses have been the only means of

qualifying as an LPN, according to Norma Anderson of the State Board of Health, Rhinelander office. The question about training done in the agency revealed only in-service training for nursing assistants.

Continuing education requests reveal one suggestion for a temporary alternative to initiation of an RN or LPN program. A refresher course for unemployed RNs was suggested by a nursing home director of nurses. It was suggested that a program of this nature may induce RNs who had left the field, to re-enter for employment purposes. It was suggested that many RNs want to work again but feel uncertain about skills after extended absence from nursing work. This alternative was suggested as a temporary means of alleviating a professional nursing shortage.

Other continuing education requests for nursing staff included updating of skills for RN, updating skills for intensive and cardiac care, physical and occupational therapy skills for nursing assistants, humanizing medical care, clinical understanding for the geriatric patient, drug interaction and new drugs.

## Chapter Summary

Data concerning allied health manpower revealed that while all health occupations experienced growth during the past five years, no severe shortages, present or future personnel needs, service needs or turnover probelms were indicated. Many allied health personnel were trained on the job within the District, and most of those not trained on the job were trained out of state. Most allied health personnel who left the District for training did not return for employment. Correspondence study appeared to be the primary alternative to full-time training programs.

Dental manpower data revealed no critical needs or projected needs, however, the turnover rates of dental assistants was high and a need for hygienists was recorded. Projected changes in state laws could have an impact on District dental personnel. District allied dental personnel were trained either on the job or out of state. District residents trained elsewhere did not return for employment in the District. Correspondence courses were utilized in selected allied dental occupations.

The majority of employed health care personnel in the District were in the field of nursing. Nursing manpower data recorded steadily increasing needs from 1969-1974 and projected continued needs with anticipated expansion of District health facilities. The number of RN and LPNs, employed in the District was substantially less than the state average.

Nearly all patient care facilities experienced a high turnover in nursing assistants and/or expressed concern about the nonavailability of either RNs, LPNs, or nursing assistants.

The majority of RNs employed in the District were trained out of state while the majority of LPNs were trained in the state.

The majority of District nursing personnel entered the District after completing their education. District residents who left the District for education did not return for employment. Most nursing assistants were District residents trained by the employing agency.

The data reveal no alternatives to full-time training for RNs and LPNs but noted a need for refresher or upgrading programs.

# CHAPTER IV

# CONCLUSIONS

The conclusions presented were based on the analysis of data collected and related to the seven objectives identified in Chapter I. The order of presentation followed the order of listing in Chapter I and subsequent data collection and analysis in Chapter III.

## Extent of Need For Trained Personnel in Various Health Occupations in the Nicolet VTAE District.

With the exception of dental hygienists, the need for allied health and dental workers was not critical either in terms of actual numbers needed or number of concerns expressed by District health personnel employers. Twenty-five percent of the District dentists were actively trying to hire hygienists. However, as only nine dental hygienists were actually needed in the District, the data suggests that actual needs for trained dental hygienists are not significant enough to justify the implementation of a full-time training program for hygienists.

The need for nursing manpower at the RN, LPN and Nursing Assistant levels was substantial both in terms of the actual number of personnel needed and the frequency of concern expressed by various District nursing personnel employers.

Employment opportunities for 18 RNs, 7 LPNs and 16 nursing assistants currently exist. The RN openings approximate the yearly growth rate of 15 RN's established over the past five years, and the LPN openings nearly double the rate of four LPNs per year as established over the past five years.

The 16 nursing assistants openings for 1974 were approximately half the rate of 37 nurse assistants per year established over the past five years.

In addition to present needs, turnover rates for RNs, LPNs and nursing assistants were higher than for other health care occupations examined. Approximately 44 percent of the 14 hospitals and nursing homes experienced a 20 percent turnover in RN staff each year. Twenty percent average turnover of LPNs occurred annually for approximately 21 percent of the hospitals and nursing homes. All 14 hospitals and nursing homes experienced a 30-40 percent average turnover of nursing assistants per year.

An additional indication of need for nursing manpower was evident through comparisons of data pertaining to the Nicolet District, and state and national levels.

Literature indicated that the revised national goal for 1975 was 417 nurses per 100,000 population. Wisconsin reached that goal in 1968, and set a new goal for 1978 of 450 nurses per 100,000 population. The 1974 RN population in the Nicolet District as based on 1970 census data for general population, indicated that less than 357 RNs per 100,000 population practiced in the District.

Licensed Practical Nurse needs were not as severe as those for RNs or nursing assistants. In terms of professional nursing manpower, however, many employers would hire both LPNs and RNs or only LPNs if RNs were not available.

Recurring needs due to turnover among nursing assistants were significant involving from 138 to 196 of the 490 assistants employed. Personnel needs due to annual turnover in addition to an annual growth rate of 37 nursing assistants per year constitute a significant need.

## Various Health Occupations to Satisfy Future Demands Associated With Expanded Services

The projected need for allied health and dental workers was not significant in terms of actual numbers or numbers of concerns for the future expressed by various district health personnel employers.

The need for nursing manpower will continue. Thirteen RNs, eight LPNs and 32 nursing assistants will be needed for 1975 over and above the present openings and annual turnover needs. The 1975 RN needs will approximate the 1969-1974 average annual rates of 15 per year. The 1975 LPN needs will double the rate of 4 per year as established during the 1969-1974 interim. Needs for nursing assistants will continue to increase at the approximate rate established over the past five years.

District nursing manpower needs will increase with the addition of 274 more patient care beds. Needs for 1980 included 25 RNs, 12 LPNs, and 67 nursing assistants. These increases double the yearly rate for RNs and nursing assistants and triple the yearly rate of increase for LPNs.

Five of the eight District state skill nursing homes will be required to hire more nursing staff if the new state law requiring an increase in the percentage of RNs and LPNs per bed in state skill homes is implemented.

Needs for all levels of nursing personnel will continue although the need for LPNs will increase at a faster rate than RNs or nursing assistant More hospital beds in the District will elevate the need for all three levels of nursing skill, and the new state law will increase the needs for RN and LPNs.

## Specific Health Occupations in the District Experiencing Critical Shortages of Trained Personnel.

Critical shortages exist in the nursing field as evidenced by the data and expressed concerns of nursing personnel employers. Fifty percent of the 14 hospitals and four nursing homes were concerned about the small

number of nursing assistants available for employment. In terms of the greatest number of employees needed, six hospitals and nursing homes were concerned with RNs and LPNs. In terms of greatest need for medical service provided, 10 of the 14 nursing homes and hospitals voiced a concern for RNs.

There are more nursing assistants than RNs or LPNs employed in the District. Most agencies train their own nursing assistants and are concerned with large turnover and the process of training. However, nursing homes and hospital officials are more concerend with the non-availability of RNs and LPNs. Registered Nurses constitute the largest number of present openings for any job classification with future employment needs second only to the nursing assistant classification. The need for LPNs is increasing at a faster rate than the other two nursing levels.

### Extent to Which the Need for Trained Personnel in Various Health Occupations in the District Were Met by Other Agencies.

Data on allied health and dental workers did not represent large enough numbers of workers to be significant. Trends suggested in both groups were confirmed by the data from nursing manpower.

District allied health, dental, and nursing manpower needs were met primarily by on-the-job training by the employing agency, and secondarily by out-of-state agencies. In-state but out of the Nicolet District agencies ranked third in terms of number of Nicolet health care personnel trained.

Nursing manpower data revealed that Milwaukee and Madison trained more nursing employees than Nicolet's neighboring VTAE District cities.

### Extent to which Nicolet Native Enrolled in Out-of-District Health Occupations Programs Returned to the District for Employment

With the exception of nursing assistants, the majority of allied health dental and nursing manpower groups employed in the District were not native

of the District. The data indicates that for every four persons leaving the District for health care training purposes, only one could be expected to return for employment purposes. This means that five out of six RN graduates did not return and nine out of 12 LPN graduates did not return to the District.

### Alternative Ways to Meet Needs in the District that would be more Advantageous Than Inaugurating and Sustaining Programs at Nicolet College and Technical Institute.

This study identified three alternatives to inaugurating programs at Nicolet College: (1) A correspondence course for teaching and certifying medical records technicians was used to teach 50 percent of the medical records technicians in the District. (2) St. Mary's Hospital in Rhinelander conducts a radiological technology course for approximately eight students per year. (3) One dentist used a correspondence course to certify dental assistants.

### Summary

Although the data tends to suggest that it may be feasible to consider the development of curricula in selected health occupations on the basis of personnel needs, definitive decision making and specific recommendations relating to curriculum development will not be made until an advisory committee composed of health occupations employer representatives have reviewed the results of this study. As the primary intent of this study was to gather information as a prelude to decision making, the results of advisory committee review was beyond the scope of this study and therefore was not included.

## REFERENCES

A.T. Kearney & Company, Inc., Howard Young Medical Center, Inc.: Long-Range Plan for Health Services and Facilities, 1973-1982. Chicago: A.T. Kearney, Inc., 1973.

Advisory Committee to the Wisconsin State Board of Nursing. Nurses for Wisconsin's Future--an Appendum. Madison: Wisconsin State Board of Nursing, 1973.

Carley, David. The Wisconsin Governor's Health and Planning and Policy Task Force Final Report. Madison: Department of Administration, 1972.

Commission on Statewide Planning for Nursing Education. Nurses for Wisconsin's Future. Madison: Commission on Statewide Planning for Nursing Education, 1970.

Kassalow, Sylvia D. and Nashold, Raymond D. Optometrist Manpower Survey, Wisconsin, 1971. Madison: State Department of Health and Social Services, 1971.

Kassalow, Sylvia D. "Dental Hygienists in Wisconsin", Journal of the Wisconsin State Dental Society. March, 1972.

Mechsler, H., Thum, D., and Williams, A. Choice of Practice location: the Influence of Dental School Location and Residence at Admission. Boston: The Medical Foundation Inc., 1972.

State Department of Health and Social Services. Registered Nurses by County and District of Employment and County and District of Residence. Madison: State Department of Health and Social Services, 1971a.

State Department of Health and Social Services. Trained Practical Nurses by County and District of Employment and County and District of Residence. Madison: State Department of Health and Social Services, 1971b.

Strong, Merle E. An Assessment of Wisconsin's Vocational and Technical Education Programs. Madison: Wisconsin Advisory Council on Vocational Education, 1970.

Strong, Merle E. A Reassessment of Wisconsin Allied Health Occupations Education Programs. Advisory Council for Vocational and Technical Education, 1972.

Tomlinson, Robert M., Langdon, Lois M. and Rzonca, Chester S. Guidelines for Health Occupations Education Programs. Urbana, ILL: University of Illinois, 1971.

U.S. Dept. of Health, Education and Welfare. Health Manpower Source Book 21. Washington D.C.: U.S. Government Printing Office, 1970.

Wisconsin State Employment Service. Wisconsin Manpower Projections 1960-68-75. Madison: Wisconsin State Employment Service, 1970.

Wisconsin Department of Administration. Work Force 1980--Industry Projections. Madison: Wisconsin Department of Administration, 1972.

APPENDIX A

SURVEY INTERVIEW INSTRUMENT
FOR HEALTH CARE PRACTITIONERS

This form is a confidential questionnaire to be used by an interviewer talking with individual health care pracitioners (physicians, osteopaths, dentists, optometrists, podiatrists and chiropractors) and representatives from health care clinics with more than one professional practitioner on the staff.

Part I - Identification Information

Date_____

Name_____ City_____

Profession/position_____ Township_____

When was agency established?_____

Types of Services_____

Part II - Personnel Information

| | 1969 | 1974 |
|---|---|---|
| Professional medical staff | ____ | ____ |
| Active Specialists | | |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |

Paraprofessional

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| NURSING | | | | | | | | |
| *Technical Nursing | | | | | | | | |
| *Practical Nursing | | | | | | | | |
| *Nursing Assistant | | | | | | | | |
| *Ward Clerk | | | | | | | | |
| Physicians Assistant | | | | | | | | |
| Orderlies | | | | | | | | |
| TECHNICAL | | | | | | | | |
| *Electroencephalograph Assistant | | | | | | | | |
| *Medical Assistant | | | | | | | | |
| Certified Lab. Assistant | | | | | | | | |

Paraprofessional (cont.)

| | 1969 full | 1969 part | 1974 full | 1974 part | % of annual turnover | present openings | future needs over and above col. 3 & 4 1975 | future needs over and above col. 3 & 4 1980 |
|---|---|---|---|---|---|---|---|---|
| **Medical Lab. Assistant | | | | | | | | |
| Laboratory Specialist | | | | | | | | |
| *Medical Lab. Tech. | | | | | | | | |
| *Operating Room Assist. | | | | | | | | |
| *Radiologic Tech. | | | | | | | | |
| EKG Technician | | | | | | | | |
| Med. Technologist ASCP | | | | | | | | |
| THERAPEUTIC<br>*Occupational Therapy Assist. (activity Aide) | | | | | | | | |
| Certified Occupational Therapy Assistant | | | | | | | | |

Appendix A (cont.)

Paraprofessional (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| *Physical Therapy Assist. | | | | | | | | |
| *Respiratory Therapist | | | | | | | | |
| Licensed Physical Therapist | | | | | | | | |
| Registered Occupational Therapist | | | | | | | | |
| Certified Speech Pathologist | | | | | | | | |
| Speech Therapist BS/BA | | | | | | | | |
| Audiologist | | | | | | | | |
| DENTAL<br>*Dental Assistant | | | | | | | | |
| *Dental Lab. Tech. | | | | | | | | |
| *Dental Hygienist | | | | | | | | |

Paraprofessional (cont.)

| | 1969 | | 1974 | | % of annual Turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| OTHER | | | | | | | | |
| *Medical Record Tech. | | | | | | | | |
| Record Library Aide | | | | | | | | |
| Medical Secretar, | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Occupations offered by existing Wisconsin Vocational, Technical and Adult Education schools

Summary of staff educational background and residence information. Specify whether nursing assistants' training was a 120 or 180 hour program.

| Title of occupation | Institution providing the educational preparation | How long lived in this VTAE District. |
|---|---|---|
| | | |
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Are there health care occupation personnel who are presently not available, who would be hired if available? _____

If so, what _____

_____

Have any facilities or services closed down due to lack of staff?_____

If so, what _____

_____

Is there a need for physician assistants?_____

If so, how many_____

What type(s) of patients regularly have to be referred out of this agency_____

_____

What type(s) of personnel would allow them to receive treatment at this agency?_____

_____

Part III - Facility Expansion Information

Has there been any expansion of facilities since the agency was established?_____

If so, what_____

_____

Date(s)_____

If within the last five years, when was this completed_____

Describe_____

_____

Did this require more and/or new personnel?_____

If so, what kind?_____

_____

How many?_____

Have these openings been filled?_____

If not, why?_____

Is building or remodeling being planned?_____

When?_____

Describe_____

_____

Will more and/or new personnel be needed?_____

What kind?_____

_____

How many?_____

In your opinion, what personnel are needed most in this agency in terms of:

1) greatest numbers needed_____

2) greatest need for medical service to be provided_____

_____

Part IV - Education Information

What are your greatest concerns regarding preparatory education for health workers in this agency?_____

_____

Is there any preparatory training done in this agency?_____

Describe_____

_____

How many are trained per year?_____

Would this agency provide facilities for training if there was a college based health occupations training program in the area?_____

Please describe_____

_____

_____

Would agency staff be available for training services?_____

Describe_____

_____

Do you have personnel which you feel would benefit from additional job training?_____

If so what health occupations and what area of training?_____

_____

_____

APPENDIX B

SURVEY INTERVIEW INSTRUMENT
FOR HOSPITALS AND NURSING HOMES

This form is a confidential questionnaire to be used by an interviewer talking with representatives from District hospitals and nursing homes.

Part I - Identification Information

Date _____

Name of agency _____ City _____

Person interviewed _____ Township _____

Position _____

When was agency established _____

What types of service does it offer _____

Bed Utilization

| | 1969 | 1974 |
|---|---|---|
| Total number of beds | ___ | ___ |
| Type of beds | | |
| med/surgical | ___ | ___ |
| Obstetrics | ___ | ___ |
| Pediatric | ___ | ___ |
| Newborn | ___ | ___ |
| Psychiatric | ___ | ___ |
| ICU | ___ | ___ |
| Other (Specify) | | |
| _____ | ___ | ___ |
| Long-term care beds | ___ | ___ |
| Ambulatory | ___ | ___ |
| Semi-ambulatory | ___ | ___ |
| Bed-ridden | ___ | ___ |

Appendix B (cont.)

| Admissions | 1969 | 1973 |
|---|---|---|
| Total Admission | ____ | ____ |
| Emergency Admissions | ____ | ____ |
| Outpatient | | |
| Emergency | ____ | ____ |
| Rehabilitation | ____ | ____ |

| Part II - Personnel Information | 1969 | 1974 |
|---|---|---|
| Professional medical staff | | |
| active | ____ | ____ |
| specialties | | |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| consulting | | |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |
| _____ | ____ | ____ |

Paraprofessional

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| NURSING | | | | | | | | |
| *Technical Nursing | | | | | | | | |
| *Practical Nursing | | | | | | | | |
| *Nursing Assistant | | | | | | | | |
| *Ward Clerk | | | | | | | | |
| Physicians Assistant | | | | | | | | |
| Orderlies | | | | | | | | |
| TECHNICAL | | | | | | | | |
| *Electroencephalograph Assistant | | | | | | | | |
| *Medical Assistant | | | | | | | | |
| Certified Lab. Assistant | | | | | | | | |

Paraprofessional (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| **Medical Lab. Assistant | | | | | | | | |
| Laboratory Specialist | | | | | | | | |
| *Medical Lab. Tech. | | | | | | | | |
| *Operating Room Assist. | | | | | | | | |
| *Radiologic Tech. | | | | | | | | |
| EKG Technician | | | | | | | | |
| Med. Technologist ASCP | | | | | | | | |
| THERAPEUTIC<br>*Occupational Therapy Assist. (activity Aide) | | | | | | | | |
| Certified Occupational Therapy Assistant | | | | | | | | |

Paraprofessional (cont.)

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| *Physical Therapy Assist. | | | | | | | | |
| *Respiratory Therapist | | | | | | | | |
| Licensed Physical Therapist | | | | | | | | |
| Registered Occupational Therapist | | | | | | | | |
| Certified Speech Pathologist | | | | | | | | |
| Speech Therapist BS/BA | | | | | | | | |
| Audiologist | | | | | | | | |
| DENTAL *Dental Assistant | | | | | | | | |
| *Dental Lab. Tech. | | | | | | | | |
| *Dental Hygienist | | | | | | | | |

Paraprofessional (cont.)

| | 1969 | | 1974 | | % of annual Turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| OTHER | | | | | | | | |
| *Medical Record Tech. | | | | | | | | |
| Record Library Aide | | | | | | | | |
| Medical Secretary | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

*Occupations offered by existing Wisconsin Vocational, Technical and Adult Education schools

Summary of staff educational background and residence information. Specify whether nursing assistants' training was a 120 or 180 hour program.

| Title of occupation | Institution providing the educational preparation | How long lived in this VTAE District. |
|---|---|---|
| | | |
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Are there health care occupation personnel who are presently not available, who would be hired if available? _____

If so, what _____

_____

Have any facilities or services closed down due to lack of staff?____

If so, what _____

_____

Is there a need for physician assistants?____

If so, how many_____

What type(s) of patients regularly have to be referred out of this agency_____

_____

What type(s) of personnel would allow them to receive treatment at this agency?_____

_____

Part III - Facility Expansion Information

Has there been any expansion of facilities since the agency was established?____

If so, what_____

_____

Date(s)_____

If within the last five years, when was this completed_____

Describe_____

_____

Did this require more and/or new personnel?____

If so, what kind?_____

_____

How many?_____

Have these openings been filled?_____

If not, why?_____

Is building or remodeling being planned?_____

When?_____

Describe_____

_____

Will more and/or new personnel be needed?_____

What kind?_____

_____

How many?_____

In your opinion, what personnel are needed most in this agency in terms of:

1) greatest numbers needed_____

2) greatest need for medical service to be provided_____

_____

Part IV - Education Information

What are your greatest concerns regarding preparatory education for health workers in this agency?_____

_____

Is there any preparatory training done in this agency?_____

Describe_____

_____

How many are trained per year?_____

Would this agency provide facilities for training if there was a college based health occupations training program in the area?_____

Please describe_____

_____

_____

Appendix B (cont.)

Would agency staff be available for training services?_____

Describe_____

_____

Do you have personnel which you feel would benefit from additional job training?_____

If so what health occupations and what area of training?_____

_____

_____

NICOLET DISTRICT HEALTH CARE MANPOWER NEEDS FOR 1974, 1975 and 1980

Papaprofessional

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| NURSING<br>*Technical Nursing | 57 | 61 | 103 | 88 | 6 gave turnover --average 20% | 17 full<br>1 part | 13 | 25 |
| *Practical Nursing | 13 | 17 | 28 | 24 | 3 gave turnover --average 20% | 6 full<br>1 part | 8 | 12 |
| *Nursing Assistant | 214 | 92 | 384 | 105 | range 3-80%<br>average 30-40% | 16 | 32 | 67 |
| *Ward Clerk | - | - | 9 | 3 | | 1 | 8 | 2 |
| Physicians Assistant | - | - | 1 | - | - | - | - | - |
| TECHNICAL<br>*Electroencephalograph Assistant | 2 | - | 2 | 1 | | 1 | | |
| *Medical Assistant | 10 | - | 13 | 4 | | 1 | | 1 |
| Certified Lab. Assist. | 2 | 2 | 3 | | | | 1 | 3 |
| *Medical Lab. Assist. | | | | | | | 3 | 2 |

paraprofessional

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| *Medical Lab. Tech. | 9 | 2 | 14 | 2 | | 1 | 2 | 3 |
| *Operating Room Assist. | 9 | 2 | 15 | 1 | | | 2 | 4 |
| *Optometric Assistant | 1 | - | 3 | 1 | | | | 1 |
| *Radiologic Tech. | 10 | 4 | 19 | 4 | | | 2 | 3 |
| EKG Technician | 1 | 4 | 2 | 6 | | | 1 | 2 |
| Med. Technologist ASCP | 4 | 2 | 7 | 5 | | | 3 | 3 |
| THERAPEUTIC<br>*Occupational Therapy Assist. (activity Aide) | 1 | 1 | 1 | 2 | | 1 part | 1 | 3 |
| Certified Occupational Therapy Assistant | | | | | | 1 part | 2 | 5 |
| *Physical Therapy Assist. | 1 | 3 | 2 | 7 | | 1 part | 3 | 5 |

Paraprofessional

| | 1969 | | 1974 | | % of annual turnover | present openings | future needs over and above col. 3 & 4 | |
|---|---|---|---|---|---|---|---|---|
| | full | part | full | part | | | 1975 | 1980 |
| *Respiratory Therapist | 1 | | 4 | | | 1 part | 2 | 2 |
| Licensed Physical Therapist | 1 | 1 | 2 | 3 | | 1 | 1 | 2 |
| Registered Occupational Therapist | 1 | 1 | 1 | | | 1 part | 1 | 2 |
| DENTAL<br>*Dental Assistant | 14 | 6 | 35 | 7 | | | | |
| *Dental Lab. Tech. | 2 | | 2 | | | | | |
| *Dental Hygienist | | 5 | | 7 | | 7 full<br>1 part | | |
| OTHER<br>*Medical Record Tech. | 4 | 3 | 9 | 2 | | 2 part | 1 | 3 |
| Record Library Aide | 4 | 2 | 6 | 4 | | 1 | 3 | 1 |
| Medical Secretary | 6 | 1 | 6 | 8 | | 1 | 4 | 4 |

*Occupations offered by existing Wisconsin Vocational, Technical and Adult Education Schools

# APPENDIX D

## PROFESSIONAL HEALTH CARE PERSONNEL PROVIDING DATA FOR THE STUDY

### CHIROPRACTORS

Bergman, Barbara, D.C.

Fischer, R. A., D.C.

McCone, Myron L., D.C.

McKitrick, Larry B., D.C.

Schmidt, Edwin L., D.C.

Sparr, J.C., D.C.

### DENTAL LABORATORIES

Moldenhaur, Gilbert C., Certified Dental Technician

Schlecht, Henry, Dental Technician

### DENTISTS

Andrus, Walter A., D.D.S.

Butler, John P., D.D.S.

Butler, Thomas E., D.D.S.

Cadwell, James R., D.D.S.

Consoer, John F., D.D.S.

Doyle, Thomas, D.D.S.

Drew, C.C., D.D.S.

Farrar, Fred. J., D.D.S.

Gremban, Darryl L., D.D.S.

Hartzheim, James F., D.D.S.

Imm, David G., D.D.S.

Jelinek, William F., D.D.S.

Kirsch, John R., D.D.S.

Lidral, Paul D., D.D.S.

Appendix D (con't)

DENTISTS (con't.)

Maatta, Andrew A., D.D.S.

Metternich, J.C., D.D.S.

Mooney, James W., D.D.S.

Nielsen, Neal A., D.D.S.

O'Brien, Michael L., D.D.S.

Reedstrom, D.M., D.D.S.

Reich, J.E., D.D.S.

Sauer, James N., D.D.S.

Schoenenberger, Paul R., D.D.S.

Smith, E. Edward, D.D.S.

Vraney, Robert E., D.D.S.

HOSPITALS AND NURSING HOMES

Anderson, Martin, Administrator, Howard Young Medical Center

Bielinski, Leonard, Administrator, Eagle River Memorial Hospital

Christina, Sr. Mary, Administrator, Sacred Heart Hospital and Nursing Home

Howell, Lambert, Administrator, Golden Age Nursing Home

Landgraf, Richard, Administrator, Northwoods Hospital and Lillian E. Kerr Nursing Home

LaRocque, Larry, Administrator, Eagle River Nursing Home

Lucina, Sr. Mary, Administrator, St. Mary's Hospital

Newton, Millard E., Administrator-owner, Nu-Roc Nursing Home

Rosch, Betty, RN., Director of Nursing, Crandon Nursing Home

Ann Roth, RN., Director of Nursing and Wolff, Herbert, Administrator, Riverview Terrace Nursing Home

Appendix D (con't)

HOSPITALS AND NURSING HOMES (con't.)

Toms, Charles, Administrator, The Friendly Village Inc.

Wooldridge, Mrs. P., RN., Director of Nurses-owner, Lakeland Manor

OPTOMETRISTS

Brill, D.E., O.D.

Gorz, L.J., O.D.

Hagen, L.A., O.D.

Heurich, E.A., O.D.

Reideman, Ron, business manager, Eye Clinic of Wausau

Wickstrom, L.A., O.D.

PHYSICIANS, OSTEOPATHS AND MEDICAL CLINICS

Castaldo, E. Frank, M.D.

Cline, Frances A., M.D.

Cochrane, William L., M.D.

Eickhoff, E.C., M.D.

Hambrick, Robert L., D.O.

Jacobson, Lewis L., M.D.

Kitzman, Robert H., M.D.

Madson, W.L., D.O.

Moffet, Dale V., M.D.

Nevin, I. Nik, M.D.

Rathert, Burton S., M.D.

Schuetze, Arthur, Administrator, Lakeland Medical Associates Ltd.

Schiek, I.E. III, M.D., Schiek Clinic S.C.

PHYSICIANS, OSTEOPATHS AND MEDICAL CLINICS (con't.)

Went, Kurt, Administrator, Bump Medical Group S.C.

Wolcott, Rolla R., M.D.

PODIATRIST

Gilbert, E.E., Podrist

UNIVERSITY OF CALIF.
LOS ANGELES

MAR 07 1975

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION